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DEPARTMENT

CLEANING

BEE CULTURE

DEVOTED
TO

§ HOME INTERESTS.

MEDINA OHIO.

BY
A. ROOT

TERMS, ONE-DOLLAR PER YEAR.

F. WHITING, DUNELLEN, X.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

On 48 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, or more, 25 per cent; 24 insertions or more, 33¼ per cent.

On 96 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, or more, 33¼ per cent; 24 insertions or more, 40 per cent.

On 192 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions or more, 40 per cent; 24 insertions or more, 50 per cent.

No additional discount for electrotype advertisements.

A. I. Root.

CLUBBING LIST.

We will send GLEANINGS—

With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(.75)	1.65
With the Bee Hive,	(.30)	1.20
With the Bee-Keepers' Review,	(.50)	1.40
With the British Bee-Journal,	(1.50)	2.40
With all of the above journals,		5.40
With American Apiculturist,	(.75)	1.70
With Bee-Keepers' Advance and Poultryman's Journal,	(.50)	1.45

With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journal,	(.50)	1.20
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(1.50)	1.75
With Drainage and Farm Journal,	(1.00)	1.75
With Illustrated Home Journal,	(1.00)	1.35
With Orchard and Garden,	(.50)	1.40
With Cosmopolitan, (new sub. to Cos.)	(2.40)	2.40

[Above Rates include all Postage in U. S. and Canada.]

THE MAYFLOWER,

16-Page Monthly; devoted to flowers; pub. by John Lewis Childs; with 5 Choice Winter Flowering Bulbs, no 2 alike. Also **Special Crops**, pub. by C. M. Goodspeed, and a package of Choice Mixed Pansy Seed, all for 25 cts. Remember, both papers a full year and premiums postpaid. Offer only good until Nov. 24. Address

SPECIAL CROPS, Skaneateles, N. Y.

In responding to this advertisement mention GLEANINGS.

Cash for Beeswax!

Will pay 25c per lb. cash, or 28c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 31c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delays as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. 1st. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.

*H. H. Brown, Light Street, Col. Co., Pa. 7tf990

*Paul L. Viallon, Bayou Goula, La. 7tf990

*S. F. Newman, Norwalk, Huron Co., O. 7tf990

C. C. Vaughn, Columbia, Tenn. 9tf990

J. M. Jenkins, Wetumpka, Ala. 9tf990

*Oliver Hoover & Co., Snyderstown, Northumberland Co., Pa. 17tf990

D. A. McCord, Oxford, Butler Co., Ohio.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.

P. L. Viallon, Bayou Goula, Iberville Par., La 7tf990

C. W. Costellow, Waterboro, York Co., Me. 7tf990

R. B. Leahy, Higginsville, Laf. Co., Mo. 9tf990

J. M. Jenkins, Wetumpka, Ala. 9tf990

W. T. Falconer Mfg. Co., Jamestown, N. Y. 7tf990

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says — "We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 noney-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will."

Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT.

23tf9d

NEW * FACTORY.

Bee-Hives, Sections, Frames, Etc.

We have moved into our new factory, which is the largest and most complete in the world. We make the best of goods, and sell them at lowest prices. Write for free illustrated catalogue.

G. B. LEWIS & CO.,

17-tfdb

WATERTOWN, WIS.

In responding to this advertisement mention GLEANINGS.

1890 ITALIAN QUEENS FOR BUSINESS.

18tf9d

W. H. LAWS, Lavaca, Ark.

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FOR SALE.—A pleasant home in Orlando; the most enterprising town in South Florida. New, nine-room house; half-acre lot planted in bearing orange-trees; a nice lawn; city water; on street car line; but only ten minutes walk from business part of town. Splendid location for an apiary. For particulars address
DR. E. J. BAIRD,
21-22-23d
Orlando, Florida.

To BEE-KEEPERS!

IN ADDITION to our New England **Honey Trade** we have leased a Store in New York City in the best possible location to catch the Grocery Trade, and propose handling

COMB AND EXTRACTED HONEY

there. As we have been practical Bee-Keepers and have had some 12 years' experience in the Honey Trade (during which time we have handled MORE HONEY than any House in New England), we feel justified in saying that we understand the Honey Trade, and think we can handle your **Surplus Honey** to the very best advantage.

We shall endeavor to make Quick Sales at the **very highest prices**, and by making prompt returns we hope to merit your patronage. Advances made when requested. Stencils furnished—also printed instructions for Packing and Shipping, giving valuable information gained by our experience in Shipping Honey by the Ton and in Carload lots.

Correspondence, Visits, and Consignments Solicited. Address

F. I. SAGE & SON,

183 Reade St. - - - New York, N. Y.

No Consignments received at Wethersfield, Conn.

REFERENCES.—Bradstreet's and Dunn & Co.'s Commercial Reports, under *Wethersfield, Conn.*, heading, and the numerous Bee-keepers whose Honey we have handled the past 12 years.

18-23db

Please mention this paper.

THE CANADIAN

Bee Journal

Edited by D. A. Jones.

75c. Per Year.

Poultry Journal

Edited by W. C. G. Peter.

75c. Per Year.

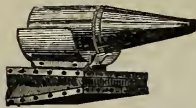
These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

The D. A. Jones Co., Ltd., Beeton, Ont.

Please mention GLEANINGS.

6-11db

BEST ON EARTH



ELEVEN YEARS
WITHOUT A
PARALLEL, AND
THE STAND-
ARD IN EVERY
CIVILIZED
COUNTRY.



Bingham & Hetherington
Patent Uncapping-Knife,

Standard Size.

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3 1/2 in.,	postpaid	...\$2.00
Conqueror "	3 "	"	... 1.75
Large "	2 1/2 "	"	... 1.50
Extra (wide shield) "	2 "	"	... 1.25
Plain (narrow) "	2 "	"	... 1.00
Little Wonder,	1 1/2 "	"65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, F. A. SNELL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, R. A. MORGAN.

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to
114db BINGHAM & HETHERINGTON, Abronia, Mich.

In responding to this advertisement mention GLEANINGS.

DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Neb.; G. L. Tinker, New Philadelphia, O.; E. Kretchmer, Red Oak, Ia.; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio; Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1517 Blake St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; E. L. Gould & Co., Brantford, Ont., Can.; R. H. Schmidt & Co., New London, Wis.; J. Stauffer & Sons, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Davenport, Ia.; C. Theilmann, Theilmanton, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.; Walter S. Powder, Indianapolis, Ind., and numerous other dealers.

LANGSTROTH on the HONEY-BEE, REVISED.

The Book for Beginners, the Most Complete Text-Book on the Subject in the English Language.

Bee-veils of Imported Material, Smokers, Sections, Etc.

Circular with advice to beginners, samples of foundation, etc., free. Send your address on a postal to
4tfdb

CHAS. DADANT & SON.

HAMILTON, HANCOCK CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

OREGON EVERBEARING STRAWBERRY.

I offer a limited number of the Oregon Everbearing Strawberry plants for sale at \$1.50 per dozen, or less number at same rate. C. GERE.

East Springfield, Erie Co., Pa.

SPECIAL NOTICES.

TIN PLATE AND TINWARE ADVANCED.

Owing to the addition of $\frac{1}{2}$ cents per lb. to the duty on tinplate, which is to take effect next July, the prices are advancing all along the line. We are obliged to withdraw all prices on tin pails and tinware generally, also tinplate. We will give the revised prices in next edition of our catalogue, which will be ready in a few weeks. Meanwhile we will give the best price we can at the time of receiving the order. We have been fortunate in placing orders for over three carloads of tinplate, before it began to go up, so that, on this article, we are prepared to give you as good prices as any one.

POULTRY NETTING ADVANCES DEC. 15.

We have made our contract for a supply of wire netting and fencing for the year 1891 at an advance of nearly 10 per cent over this year's prices; and our price after Jan. 1, 1891, for 2-in. No. 19 netting, 4 ft. wide, will be \$4.50 per roll for less than 5 rolls; 5 to 10 rolls, \$4.25 per roll; 10 rolls or over, \$4.05 per roll. Other widths, weights, and sizes, advance in the same proportion. Netting and fencing catalogue, with new discount sheet, mailed on application.

Up to Dec. 15th we will receive orders at the old prices, which you will find on the last page of our catalogue. This is a rare opportunity to lay in a stock at the old prices. Even though you won't use it till next summer, 50 cts a roll will pay you for keeping it a long time. Then in the spring the manufacturers are crowded with orders just as we are for hives, and they have sometimes delayed orders a month. By laying in a stock now, you will escape that annoyance.

THE HONEY MARKET.

The demand for honey still continues good. Of the two cars received a month ago we have only a third of each left. We have also placed several large lots of comb honey, shipping direct from the producer to our customer. Of the carload from Arizona, we still have on hand the No. 2 grades of both mesquite and alfalfa. There is a bargain in this honey for some one. The fact of its being graded No. 2 seems to make customers afraid of it. We want to say that the flavor is equal to the best. It is only a little off color. Even the color is not very bad. Samples mailed free, by which you can see what it is. We will sell, in case lots of 2 cans, at 9 cts. per lb.; 5-case lots, 8 cts. If you take the lot of 30 cases, $7\frac{1}{2}$ cts.

The No. 1 honey will be at the same price as quoted a month ago—18 to 20 for comb, 9 to 11 for extracted white sage or alfalfa, according to quantity taken.

DAILY BREAD.

Perhaps you think I have a good deal to say on this subject lately; but this time it is not in regard to the making of bread, but it is about an improved way of cutting bread into nice slices. May be you think that is a small item, especially when the main thing is to get the bread to cut. When we sit down to supper, my wife almost always hops up, saying something about having forgotten the bread. Pretty soon she comes in with a heaping plate of snowy slices. A great many times I commence to tell her some important news, when cutting the bread cuts me short. I have often suggested that some of our boys or girls should cut the bread; but she always says they can not do it nicely, and that bread should not be cut very long before it is to be eaten, because it dries up, and nobody wants bread that is dried up and warped. Well, something over a year ago a man came along with a bread-knife that had saw-teeth filed on the blade. With this, any one, even the children, can saw off beautiful slices from the softest, spongiest, and newest loaf. I have recommended so many new things and afterward been sorry, that I waited a whole year or more before saying any thing about this. The man who makes them takes any bread-knife, or any knife of any kind, and cuts teeth in the blade. I believe he charges 25 cts. for making a bread-knife into a bread-saw. We have used one the same length of time in our lunch-room; and if they could not be afforded cheaper, I would pay \$5.00 for ours before going without one. If you want to see just

how the teeth are cut, we will send you one of our 35-cent bread-knives, all ready for work. Price for the knife, 35 cts.; 25 more for cutting the teeth; and if wanted by mail, 10 cts. extra for postage—70 cts. in all. I really believe that the knife will prove a blessing in many a household where there are lots of children who are given to daily rations of bread and butter. Of course, we do not need to send you any homey to go along with it, for every bee-keeper's home supplies that part.

GLEANINGS FREE FOR THE REST OF 1890 TO NEW SUBSCRIBERS.

Now is the time for getting up clubs of subscribers and extending the influence of GLEANINGS. To make a greater inducement for those not acquainted with it to join our circle of readers, we will give the rest of 1890 free to new subscribers for one year; that is, all new subscriptions received after this date will receive GLEANINGS from the time the subscription is received till Jan., 1892, for \$1.00. We will also include the *American Bee Journal* on the same terms for 75 cts. extra, or all three for \$2.15. You never had such an opportunity before of getting three such journals and such a length of time for so small a price.

GLEANINGS, 3 MONTHS' TRIAL TRIP, FOR 15 CTS.

If there are some who will not accept any of the offers above we are still desirous of having them become acquainted with GLEANINGS, and offer to send it 3 months on trial for only 15 cents. The journal will be stopped at the end of this time, unless you send a request to continue. Think of it—six numbers of GLEANINGS for only 15 cents! Will not many of our readers endeavor to introduce it to other homes on these easy terms?

SENDING GLEANINGS AFTER THE TIME PAID FOR.

We have adopted the plan of many papers, of sending GLEANINGS right along until we receive orders to discontinue; and the great majority of our readers who have expressed their opinion are pleased with this arrangement. It is more convenient to include a dollar with a remittance for an order for goods whenever one is sent in, and it isn't pleasant to have the journal stop when you want it to come along. We therefore continue it till we get orders to discontinue, because this plan pleases the majority. There are some, however, who take exceptions to it; and we want to say to these that we can accommodate them also if they will say, when they send their subscription, that they want it stopped when the time paid for is up. Unless you do this we shall keep it going till we have orders to stop it.

KIND WORDS FOR OUR AWBERRY-BOOK.

The neatest little book on strawberry culture, we want to say, has just been published by A. I. Root, of Medina, Ohio.—*Field & Farm*.

The thousands of farmers who ought to grow strawberries for their own table may learn how easily it can be done by reading "The A B C of Strawberry Culture," a little book written by T. B. Terry, and published by A. I. Root, Medina, Ohio. Mr. Root, who is a successful berry-grower, adds an interesting chapter. Both writers give their own experience, and state particulars that are usually omitted in books of the kind.—*Farm Journal*.

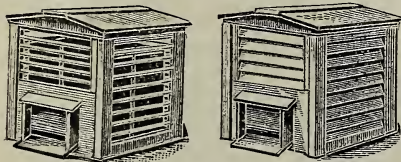
Mr. Terry had compared the methods followed by some of the most successful growers, and finally, in his intelligent and careful way, adapts the work to his land and surroundings. This is told as only Terry tells such things. It is but a few years since he thought that the farmer should not attempt to grow this choice fruit; now he tells them so well how to do it that some of our experts are anxious lest they lose some of the laurels they have so long held.—*Farmer's Home*.

From the publishing house of A. I. Root, Medina, O., we have a very neatly gotten-up and handy little book, especially written for farmers, village people, and small growers. It is a book of practical experience by an experienced man, adapted to the necessities and the information of beginners. The name of T. B. Terry alone ought to give it a wide circula

tion and be sufficient commendation to every horticulturist. But there is no man within the reach of our influence who could not be vastly profited by carefully reading this timely little work, for by it every man and woman may learn how, what, when, and where to plant and how to cultivate and market; and it will popularize this delicious berry all over the West as nothing else ever did. — *Rural World*.

From the publishing house of A. I. Root, Medina, O., comes another "A B C" book—this time the "A B C of Strawberry Culture," mainly by the well-known and interesting writer, T. B. Terry. We say "mainly," because Mr. Root has added comments and chapters in his own peculiar style that makes the book doubly valuable as a guide to the cultivation of this luscious fruit. Both of these gentlemen are thoroughly practical in their treatment of any subject they write about, and do not fail to "point a moral" here and there while giving their experiences for the benefit of others. The workmanship about the book is excellent—good matter, good paper, clear print, and good process pictures and woodcuts go together to satisfy the eye and the sense. — *Rural Canadian*.

EASTERN STRAWBERRY-GROWING.—We have received from A. I. Root, Medina, O., a copy of his neat 150-page publication in pliable covers, entitled A B C of Strawberry Culture. The little treatise is written by T. B. Terry and A. I. Root, and is well illustrated. It gives a most interesting account of strawberry-growing on large and small scale, with the smallest details of practice. It gives, of course, Eastern practice, and will not serve as a direct guide for California practice, but its methods are suggestive, and many of them can be readily adapted to our conditions. Every strawberry-grower will read it from end to end with much interest. — *Pacific Rural Press*.



THE HIVE PROTECTOR.

Protects single-walled hives from winter's

Cold and summer's heat.

For prices and particulars, address

J. A. ROE, Union City, Ind.

In responding to this advertisement mention GLEANINGS

NIAGARA GRAPEVINES. 2 years old, by mail, for 25 cts. 21tfdb T. G. ASHMEAD, Williamson, N. Y.

MUTH'S HONEY - EXTRACTOR,

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES, HONEY-

SECTIONS, &c., &c.

PERFECTION COLD - BLAST SMOKERS.

Apply to **CHAS. F. MUTH & SON,**
Cincinnati, Ohio.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-keepers." 22f Mention Gleanings. 1tfdb

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,
Nappanee, Ind.

LIGHT BRAHMA FOWLS.

(Autoerit strain) during November and December, choice cockerels and pullets, \$1.00 each.

Address **F. M. SHELL, Yed o, Ind.**

In responding to this advertisement mention GLEANINGS.

FOR SALE AT VERY LOW PRICES.

About 30 colonies of fine Carniolans, at Oxford, Chester Co., Pa., with 30 young daughters of imported queens, for \$3 each. They are in 30 two-story hives. The lower story of many of them is chaff, double-walled; and the upper, Simplicity bodies, each with 19 or 20 first-class combs, all well painted, as good as new; many are new. They are all very strong colonies. Purchaser must take from the ground, but can get further information by writing me here.

S. W. MORRISON,
Colorado Springs, Col.

Wants or Exchange Department.

WANTED.—To exchange a 52-inch Rudge bicycle, No. 1, in use three seasons; in first-class order, for bees, in Langstroth hives, foundation, or offers.
PHILIP H. HAMILTON, Paris, Brant Co., Ont., Can.

WANTED.—To exchange photographic outfit for bee-supplies, Safety bicycle, or best offers.
21-22d F. SHILLING, Jewett, Harrison Co., O.

WANTED.—To exchange nursery stock of all kinds, and Ply. Rocks, for foundation, sections, or offers.
T. G. ASHMEAD, Williamson, N. Y.
21tfdb

WANTED.—To exchange 1 American knitting-machine, with 2 cylinders and needles for cotton and wool, for photographic outfit, Barnes saw, incubator, or offers.
C. L. BROOKS,
Deansville, Oneida Co., N. Y.

WANTED.—To exchange 5 Mexican parrots, 1 pair Marmosette monkeys, 1 44 cal. Colt's revolver, 1 5-ft. show-case, 3 large bird-cages, 100 bound books, for incubator, ferrets, lap rabbits, raspberry sets, books, or offers.
A. B. BURKHOLDER,
Butler, Richland Co., Ohio.

WANTED.—To exchange forest trees, for strawberry-plants, grapevines, and all kinds of small fruit-trees or offers.
W. G. MCLENDON,
Gaines' Landing, Chicot Co., Ark.

WANTED.—To exchange rose comb Brown Leghorn pullets, and cock canaries, for bees.
F. L. WOTTON, Darien, N. Y.

WANTED.—To exchange thoroughbred Bronze gobblers, Pekin ducks, and Collie pups, for bees and queens.
J. C. PROVIUS,
Masontown, Fayette Co., Pa.

WANTED.—To exchange bee-hives for bees, will guarantee satisfactory hive. 18tfdb
LOWRY JOHNSON, M'ER, Masontown, Fay. Co., Pa.

WANTED.—To exchange apiary of 150 colonies of bees. Will take any kind of farm stock, goods or groceries.
ANTHONY OPP, Helena, Ark.

WANTED.—To exchange a 200-egg Excelsior incubator, used one season; cost \$25.00, for photographic outfit, books, or best offers. 19-20-21d
O. S. COMPTON, Glenwood, Cass Co., Mich.

WANTED.—To correspond with parties having potatoes, onions, apples, and honey for sale. Prompt attention given to correspondence. Consignments solicited. Prompt returns made.
EARLE CLICKENGER, 121 So. 4th St., Columbus, O.

WANTED.—To sell or exchange a hen (6 hens and 1 cock) of S. L. Wyandottes, Menger's strain, for nice extracted or comb honey. State price of honey.
W. M. BOLTON, McComb, Hancock Co., Ohio.

HONEY COLUMN.

CITY MARKETS.

NEW YORK.—Honey.—Comb, fancy white, 1-lb. sections, glassed, or in paper boxes, finds ready sale at from 17@18c; unglassed, 16@17; off grades do not sell as readily, and 14@15 is all that can be obtained; 2 lbs., fancy white, 14@15; off grades, 12@13; buckwheat, 1 lbs., 12@13; 2 lbs., 11. Extracted, California is selling well at from 6½@7; buckwheat, 7; basswood and clover, 8@8½; Southern, 70c per gal.

HILDRETH BROS. & SEGELKEN,
28 & 30 W. Broadway, N. Y.

Oct. 24.

CINCINNATI.—Honey.—Demand for extracted honey is good, with almost no dark on the market. We have bought the second car load from California, for which there is a good trade, but it will not fill the bill for Southern honey with many manufacturers. Extracted honey brings 5½@8c on arrival. There is no comb honey in our market.—*Beeswax* is in good demand at 24@26c for good to choice yellow on arrival.

CHAS. F. MUTH & SON,
Cincinnati, Ohio.

Oct. 18.

ALBANY.—Honey.—We have received up to date, 1302 cases of comb honey, 73 half bbls., and 122 pails of extracted. Prices remain firm, as follows: Fine white clover, 18c; medium, 15@16; mixed, 13@14; buckwheat, 11@13. Extracted, light, 9@10; dark, 7@8.

CHAS. McCULLOCH & CO.,
339 Broadway, Albany, N. Y.

Oct. 20.

KANSAS CITY.—Honey.—We quote white 1-lb. comb 16@18; dark, 12@14. Extracted, 5@7. California, 1-lb. white comb, 16@17; 1-lb. ext'd C. and C., 16; 2-lb., white, 15; 2-lb. ext'd C. and C., 14. Extracted, 6½@7. *Beeswax*, 25.

CLEMONS, MASON & CO.,
Kansas City, Mo.

Oct. 24.

BOSTON.—Honey.—Honey selling very freely. Demand fully equal to the supply. We quote best 1-lb., 18@19; 2-lb., 16@17. No beeswax on hand.

BLAKE & RIPLEY,
Boston, Mas.

Oct. 24.

NEW YORK.—Honey.—Market remains in a very good condition. Prices unchanged and firm. Stocks are very small, and demand good.—*Beeswax*, 27c.

F. G. STROHMAYER & CO.,
122 Water St., N. Y.

Oct. 20.

ST. LOUIS.—Honey.—We have no change to note save the continued scarcity of comb. Strained and extracted is in fair receipt and demand.

D. G. TUTT GROCER CO.,
St. Louis, Mo.

Oct. 20.

COLUMBUS.—Honey.—Honey scarce and in demand at 18@20c for nice white clover. All arrivals cleaned up readily.

EARLE CLICKENER,
Columbus, Ohio.

Oct. 18.

ALBANY.—Honey.—The market is in better shape than it has been in some years. There is a good demand at prices which we think are better now than they will be later. We are selling white, extra, 18@20; medium, 16@18; mixed, best, 15@16; common, 13@14; buckwheat, extra, 13@14; common, 12@13. Extracted, white, 9@10; amber, 7@7½; dark, 6@7.

H. R. WRIGHT,
Albany, N. Y.

Oct. 16.

KANSAS CITY.—Honey.—We quote, 1-lb., 17@18c; dark, 14; 2-lb., white, 15; dark, 12@14. Extracted, 6@7; demand fair, stock fairly large.

HAMBLIN & BEARSS,
Kansas City, Mo.

Oct. 24.

DETROIT.—Honey.—Best white comb honey would find a ready market at 17c. Fall lots, 13@15. Extracted, 7@9.—*Beeswax*, very firm at 27@28c.

Bell Branch, Mich., Oct. 21. M. H. HUNT.

FOR SALE.—About 300 lbs. nice white-clover honey for sale. What am I offered for it on board cars?
M. C. RAWSON, Quincy, Branch Co., Mich.

FOR SALE.—1000 lbs. white alfalfa comb honey, in 12-lb. cases, at 16c per lb.; also 4000 lbs. extracted, very fine, in 75-lb. cans, at 10c per lb.

J. T. CLAPP, Supt. Denver Land Co.,
Broomfield, Boulder Co., Colo.

19-22db

WANTED.—One or two thousands pounds of nice comb honey. Write, giving amount on hand and price wanted. A. D. ELLINGWOOD, Berlin Falls, N. H. 17tfdb.

WANTED.—White comb and extracted honey; state price, package, etc. B. WALKER. 17tfdb
Capac, Mich., or Prairie du Chien, Wis.

FOR SALE.—50,000 lbs. of extra fine sage honey in 60 lb. tin cans. Also two carloads of light amber honey, for sale at 6c per lb., f. o. b.
L. E. MERCER & SONS, Ventura, Ventura Co., Cal. 19tfdb

NEW FIRM. W. D. SOPER & CO.

We are now in shape to manufacture every thing needed in the apiary. Hives, sections, packing-boxes, etc., made to order. Get our prices before buying elsewhere. W. D. SOPER & CO.,
19-17d 118 & 120 Washington St., Jackson, Mich.

In responding to this advertisement mention GLEANINGS.

Bee - Keepers' * Supplies.

We are prepared to furnish bee-keepers with supplies promptly and at lowest rates. Estimates gladly furnished, and correspondence solicited. Our goods are all first class in quality and workmanship. Catalogue sent free. Reference, First National Bank, Sterling, Ill. Address

WM. McCUNE & CO.,
Sterling, Illinois.

In responding to this advertisement mention GLEANINGS.



3o Quarto pages—50 cents a year.

AN Elegant Monthly for the **FAMILY** and **FIRESIDE**. Printed in the highest style of the art, and embellished with magnificent Engravings. Sample FREE. Agents Wanted.

THOMAS G. NEWMAN AND SON,
PUBLISHERS

246 East Madison St., - CHICAGO, ILL.

In responding to this advertisement mention GLEANINGS.

Pratt's Patent Binding Clamps.

For compressing sections and frames. It can be attached to inside of any hive without tools. Specially adapted to the new Dovetailed hive. Stronger and cheaper than thumb screws. It does away with all loose parts. Send for free description.

21-23-1d

E. L. PRATT,
Pratt Bee Farm, Beverly, Mass.

In responding to this advertisement mention GLEANINGS.

DO YOU WANT

To succeed in apiculture? Then try the Nonpareil Bee-Hive and Winter Case. Send for catalogue of prices, and inclose 25 cts. in stamps for the new book, "*Bee-Keeping for Profit*," and you will not regret it. Address

DR. G. L. TINKER,
New Philadelphia, O.

21tfdb

In responding to this advertisement mention GLEANINGS.



Vol. XVIII.

NOV. 1, 1890.

No. 21.

TERMS: \$1.00 PER ANNUM, IN ADVANCE;
2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00;
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HONEY STATISTICS.

OUR INDUSTRY GROSSLY MISREPRESENTED BY
MISLEADING AND INCORRECT REPORTS.

We take the following from the *American
Bee Journal* of Oct. 18, page 698:

The following is from the "Report of the Statisti-
cian," in the report of the Secretary of Agriculture
for 1889, page 251. I should like to call attention to
the last paragraph. Will not this be taken as con-
firmation of the Wiley lie, which is the basis of so
many newspaper reports derogatory to our pursuit?
Please ventilate the matter. H. G. BURNET.
Alva, Fla.

Here is the Statistical Report which Mr. Bur-
net refers to:

BEE-KEEPING.

Among the minor branches of rural industry, bee-
keeping is one of the most important, though its im-
portance is not generally recognized, from the fact
that it is almost everywhere carried on as an incident
of general agriculture, and but rarely as a leading
rural occupation.

Every State and Territory reports bees and more
or less honey, usually a hive or a few colonies for
each farmer rather than extensive apiaries and large
production. In some localities, as in portions of
New York, Ohio, Tennessee, and California, where
existing conditions are particularly favorable, api-
culture is more prominent, dominating other indus-
tries in a neighborhood, though very rarely the lead-
ing branch of agriculture over any considerable
area.

The value of the annual product of honey and wax
is not generally realized. They are produced more
or less extensively in every section of the country,
and the aggregate value is large—much larger than
that of other crops of which more notice is usually
taken. It almost equals the total value of the rice or
the hop crop, falls but little short of the buckwheat
product, exceeds the value of our cane molasses, and
of both maple syrup and sugar. It largely exceeds
the aggregate value of our vegetable fibers excepting
cotton, and in 1879 was half as large as the wine pro-
duct of the year.

The latest official record of production by States
is the return of the national census for the year 1879.

It made the honey production 25,743,208 pounds, and
wax 1,105,689 pounds. After careful study of all
available data of local values and market prices, the
average farm value of the honey was estimated at 22
cents per pound, and the wax at 33 cents, making the
aggregate value of apiarian products at the place of
production \$6,028,383. The product of the principal
States in that year was as follows:

STATES.	HONEY. lbs.	WAX. lbs.
Tennessee.....	2,130,689	86,421
New York.....	2,088,845	79,756
Ohio.....	1,426,847	56,393
North Carolina.....	1,591,590	126,286
Kentucky.....	1,500,565	46,912
Pennsylvania.....	1,415,093	46,610
Illinois.....	1,310,806	45,640
Iowa.....	1,310,138	39,565
Virginia.....	1,090,451	53,200
All other.....	11,678,184	524,984
Total.....	25,743,208	1,105,689

Under the head of "all other," in the above state-
ment, there is grouped the production of 36 States
and Territories, ranging from 1,056,034 pounds of
honey in Georgia to 50 pounds in Idaho.

The census of 1870 was defective in its returns of
product for many crops, and its record of honey and
wax in 1869 is undoubtedly much too low. It made
the honey product only 14,702,815 pounds, too low in
the aggregate, though the falling off in all States in-
dicates that it was a year of short production. Illi-
nois was the leading State, with a crop of 1,500,000
pounds, while North Carolina stood second.

The returns in 1880 were more satisfactory, and
they show that the product of 1859 was but slightly
exceeded by the crop of 1879, after 20 years of growth.
The production of wax was actually greater. Many
States show a product greater than that of 1879, and
the aggregates of 23,366,357 pounds of honey and
1,322,757 pounds of wax indicate that there has been
a comparative decline of the industry, the increase
of population being taken into consideration.

The nine States given in the preceding table as
those of principal production in 1879, produced 14,000,-
000 pounds. The same States 23 years earlier had a
record of 13,900,000 pounds. With our rapid annual
increase of population, to stand still in aggregate
production is to retrograde. A more striking way of
showing the decline in the industry is by a study of

the comparative supply of the product at widely separated periods.

Our foreign trade in honey has never been large, and the balance has fluctuated. During five years past our average annual exportation has been valued at only \$82,489, and importation at \$52,891, making the value of the net exportation only \$29,598. This little exportation goes principally to the United Kingdom, France, and Germany, while our foreign purchases come mainly from the West Indies and Mexico. The balance of trade is too small to affect the supply, and our domestic consumption is satisfied with our home production.

In 1889 our production was 23,366,357 pounds, and our net importation not far from 3,000,000 pounds, making the supply available for consumption that year approximate 26,000,000 pounds. On the basis of the population June 31, 1860, this was a *per capita* supply of eight-tenths of a pound.

Twenty years later, when tremendous advances had been made in almost every branch of industry, the production of honey amounted to only 25,743,288 pounds, and the official records actually show a net exportation of honey, or something shipped as honey, amounting to about 570,000 pounds, making the net supply available about 25,000,000 pounds, or a million pounds less than at the first period. The supply per head was less than five-tenths of a pound. During the same period the *per capita* consumption of sugar and other sweets increased. Wealth and the ability to gratify taste for luxuries are greater, and yet the data seem to show a reduced consumption of this luxurious sweet.

So anomalous does this appear that some explanation must be found. If the supply per individual unit had been the same in the last period as the first, it would have required a product of 40,000,000 pounds. What has taken the place of honey in domestic consumption? Does the enormous increase in the manufacture of glucose and other saccharine adulterants indicate that a fraudulent article makes up the remainder of the needed supply? Did our people in 1879 consume 15,000,000 pounds as substitutes, in the belief that they had the genuine product of the hive? Such would be a reasonable explanation of the comparative decline in bee-keeping.

We heartily indorse (as also will every intelligent reader) the vigorous reply made by the editor, Mr. Newman, to a report so manifestly incorrect and absurd. He says:

The statistical table referred to, from the Census Report of 1880, is manifestly incorrect. One simple item will show its error so palpably that no further words will be necessary. California's honey crop is the largest in any State, and yet in the Census Table it is credited with only about one-half as much as Arkansas, one of the States producing but a comparatively small amount of honey!

It also gives North Carolina credit for 50 per cent more than Michigan, and more than Illinois or Iowa! Such "statistics" are very misleading, to say the least.

Our estimate, based upon statistics gathered by us some years ago, is, that there are 300,000 bee keepers in the United States and Canada, and the average annual product is 103,000,000 pounds of honey. Our tabulated statement by States may be found on page 320 of the *Bee Journal* for 1881.

It is a notorious fact that the statistics given in the census of 1880 are utterly unreliable. This was admitted by Col. C. D. Wright, Chief of the Bureau of Labor Statistics at Washington, who was one of the principal persons who directed the formulating of the census that year. In an address delivered before the Social Science Association at Saratoga, N. Y., in 1887, Col. Wright reviewed the whole census matter, and pointed out its shortcomings, and then said:

These two questions—capital invested and average wages—as answered by the census, illustrate the fallacy of attempting to solve a certain line of economic questions through the census as it has existed. In making this criticism, let it be understood that I arraign myself as severely as any one else; for within a few years I have followed, in all the census work in which I have been engaged, the old form. Nor did I fully comprehend the enormity of the error, and the infinite harm it has done, and is likely to do.

With this admission by Col. Wright, of the unreliability of the Census Report, we are surprised that the statistician, Mr. J. R. Dodge, should attempt

to make it prove that the industry of apiculture was declining.

Upon one erroneous conclusion he bases another argument; viz., that, because of the decreased honey production, the people have been annually "consuming fifteen millions of pounds of substitutes, in the belief that they had the genuine product of the hive."

By intimation, the statistician indorses the Wiley lie about manufactured comb honey, years after it has been exploded and acknowledged to be a falsehood, by its author!

No, sir; your conclusions are as erroneous as your premises. The production of honey, instead of being only twenty-five millions of pounds, is over one hundred millions—four times as much. Its increase has kept pace with other products; and it is the "pure product of the hive," too.

It is too bad that such incorrect and damaging statements and arguments should be published by those who ought to know better; and, going out under the indorsement of the government, they not only deceive those not posted, but also form the basis for other falsehoods.

The above illustrates vividly the result of setting somebody to collecting facts who is entirely unacquainted with the matter in question. It is the old story over, of going to Agassiz and Tyndall to know about the natural history of the honey-bee, when a bee-keeper in his teens could have told either of them what idiots they were making of themselves. This is strong language, I know; but I think it is time that something were done. We pay out our money to somebody supposed to handle the matter in question, and the above shows the result. Any bee-keeper in our land, at all conversant with our journals, could have told the statistician that California has of late years been furnishing more honey than half a dozen fair honey States, and that Arkansas is almost entirely unknown in the industry. It may be that Arkansas has undeveloped resources; but I do not remember that a large report has ever been made through our journals from that State, and yet there are dozens of States comprising bee-keepers who produce honey by the carload. The old adage, "Every man to his trade," is what is needed here. The statistician should be a bee-keeper himself, or else he should consult some intelligent, thoroughly posted bee-keeper. The editors of any of our journals could readily point out a competent man at any time; and so with statistics in our other industries.

SWARMING AND SECTION HONEY.

FRIEND DOOLITTLE SUGGESTS HOW TO RESTRAIN SWARMING AND ENCOURAGE HONEY-STORING.

My excuse for writing this article out of season (if any article on bees can be out of season) is from the fact that a party in Colorado is considerably agitated over the matter, and wishes me to write an article on the subject as soon as may be. The party says they have no trouble in following the ideas I have sometimes advanced in regard to spreading the brood, which our good friend Mrs. Harrison was sure might be misleading to some, for there was no trouble in getting the hive filled with brood and bees by the time the honey harvest from alfalfa arrived by using the plan; but the trouble was, that

when the hives were thus filled and the flow of honey occurred, excessive swarming was sure to result, which gave a loss in honey and often in queens, owing to the fact that the queens were not allowed to go with the swarms. Swarming, when working for section honey, can not very well be avoided, or at least I have not been successful in avoiding it without sacrificing a large amount of the honey crop. In fact I would as soon have *excessive* swarming as to try to hinder swarming altogether; for in this hindering process, by any of the plans with which I am acquainted, where the ordinary hive is used, the bees are so thrown out of their normal condition that they will not work to the best advantage. Again, I think that a mistaken idea prevails with some in thinking that the brood-chamber of the hives must be kept full of brood the whole season through. This is not the secret of a successful honey production, but it lies in having the brood-chamber filled with brood before it is filled with honey. Thus doing, we get the laborers for the first harvest, and, so far as my knowledge extends, when the brood-chamber is thus filled at the time the honey-flow commences, there will be bees enough reared for all practical purposes after this, even though the combs may be filled later on, two-thirds full of honey. There are two plans or ways of management which can be used successfully during the swarming season, in this locality; and if I lived in Colorado I would try them there, and then, if they did not work, I would study something else. Right here I wish to say that no one should follow any of our writers blindly, that is, without having some thoughts of their own, thoughts which will lead them out in all directions from the beaten path of a Langstroth, a Quinby, a Root, a Dadant, a Doolittle, or any other writer. Don't be a machine, but be the *master* of a machine, or of any thing else you may take hold of. So when you find yourself confronted with the swarming problem, or any other, master it, if it "takes all summer," and do it by *your own* planning, or the modifying of some plan that you have read or heard about. In this way you will grow; and by telling us how you did it, in some of the many journals of our day, you will help some one else to grow; and thus we shall be of mutual benefit one to the other, just as the all-wise Father designed we should be. "No man liveth to himself, and no man dieth to himself." But, to return: When a swarm issues, and while it is out in the air or clustered, go to the hive from which it came and take out all the frames of brood and put in their places frames of empty comb, frames filled with foundation, or frames having starters on them, as is best pleasing to you, returning the surplus arrangement on the hive as it was before; and if the swarm is a large one, it is well to give additional room by way of surplus sections. Now hive the swarm back in the same hive, or let it return if the queen has her wing clipped. Set the frames of brood with the adhering bees in a hive on a new stand, and in 24 hours give a mature queen-cell or a queen, according to what you can supply. This should satisfy any colony; but if the swarm on the old stand persisted in swarming out in a day or two, or in a "week's time," as the writer says theirs often do, then I would cage the queen for from a few days to two weeks, according to circumstances, after which I would release her. This is on the plan of doubling our colonies each year. If I wished no increase, then I would put on a queen-excluder after putting in the frames below, or after putting these frames in the brood-chamber where the frames of brood were taken from, and on top of this I would place the hive containing these frames of brood, while top of this last I would put

the surplus arrangement that was on the hive when the swarm issued. This should do away with all further swarming, but it results in filling these combs which now have the brood in them, with honey, which must be extracted, while it lessens our crop of section honey just that much. Now, if, instead of putting this hive of brood immediately on top of the queen-excluding-honey board, we place the sections there and then place the hive of brood on top of the sections, we shall get our honey mostly in sections, but we shall not be as sure of stopping all further swarming, for, as the bees hatch out from the brood above, they will crowd below, thus making the colony appear more populous than it did in the other case. If the sections were open-top sections, then it would not appear more crowded, for the bees would be equally distributed throughout the whole hive, but in this case we should have our section honey badly travel-stained, which is about the same as having it in the brood-combs, as we did where the sections were top. To obviate this I allow the bees a passageway only at the outside of each of the outside sections, which is done by a slot in the outside boards or sides of the case or section-holder. In this way the colony is kept together and good results secured, and should work in Colorado, it seems to me.

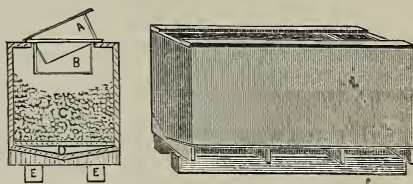
Borodino, N. Y.

G. M. DOOLITTLE.

UNCAPPING-BOX.

A MOST EXCELLENT DEVICE.

On page 30, Vol. 17, Mr. Root promised the readers of GLEANINGS a description of my uncapping-box; but as he has not fulfilled his promise yet, I will try to help him out. It was made by R. Wilkin about 12 years ago, and was so well planned that I should not care to have it changed in any way now. It is 2 feet wide, 2 deep, and 6 long outside, made of $\frac{1}{2}$ lumber dressed on both sides. The bottom is 2 inches lower in the middle than at the sides, and is lined with tin to keep it from leaking. Eleven pieces of wood, 1x1x22 inches, are laid across the bottom about 6 inches apart to support the screen which the cappings fall on. This leaves room below the screen for the honey to run to one end,



M'INTYRE'S UNCAPPING-BOX.

where it passes out through a tin pipe. Two pieces, $\frac{1}{2}$ x3x72 inches, are nailed on the top edge, one on each side, to contract the top of the box to the same width that a Langstroth hive is long inside. Two pieces, $\frac{1}{2}$ x $\frac{1}{2}$ x18 $\frac{1}{2}$, nailed one on each end between the two last mentioned, bring the ends up even with the sides. One piece, $\frac{1}{2}$ x3x18 $\frac{1}{2}$, is fixed across the top of the box about 14 inches from one end, with an iron pivot sticking up through it, 1 $\frac{1}{2}$ inches high to rest the combs on. When uncapping you set one end of the comb on this pivot, uncup one side, whirl it around, and uncup the other side, and set the comb in the end of the box, as in the diagram. When we have a surplus of combs we often hang them in the other end like B, in the diagram. C is cappings, and D the space for the honey to run out.

The bottom of the box is 7 inches from the floor, which leaves room for the honey to run into the strainer illustrated on page 248. This makes the top of the box about 32 inches from the floor, which is about the right height for me to uncapp easily. A shorter person might make the box a little shallower, or lay a plank on the floor to give the right height, which is the way I do when my wife uncaps. I know most people will think this box unnecessarily large. I will tell you why I think it is not. When uncapping over a round can like Dadant's, the cappings fall on top of those taken off earlier in the day; and when the can is half full the honey has to pass through such a pile of cappings that it takes a long time to all run out; and when you put the cappings in the sun extractor they are heavy with honey. With this box, when a pile of cappings accumulates under the knife we take a four-tined fork and pitch them over to the other end, where they may drain for four or five days. There is a small stream of honey running out of the box all the time, day and night, during the extracting time; and when the cappings go into the sun extractor they are almost dry. I think it pays well for the extra space in the box, because all the honey which goes into the sun extractor is spoiled for the market. J. F. McINTYRE.

Fillmore, Cal., July 27.

Friend M., I have had experience enough with uncapping to appreciate every point you make; and our good friend R. Wilkin ought to have a shaking for not giving this to the world long ago. I think I can say for the rest, that we bee-keepers tender you and Mr. Wilkin both a hearty vote of thanks.

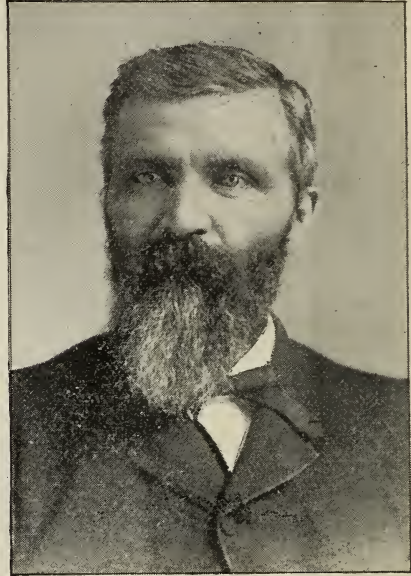
HON. R. L. TAYLOR.

HIS HISTORY AS FARMER, BUSINESS MAN, LAWYER, BEE-KEEPER, AND SENATOR.

To my mind, the most alarming feature of the census just taken is the rapid increase of population in the cities and the corresponding decrease in the rural districts. Who has not noticed, during the past ten years, the constant influx of energy and strength from country to city? The men of push and ability who are leading our enterprises to-day, not only as business but as professional men, spent their boyhood on the farm. True, we have an Adams family, but we have hundreds of such men as Greeley, Webster, Lincoln, and Garfield, that went from country to city, and carried life, vigor, and energy with them. What will become of our cities if the country fails to pour in this new and vivifying power?

Our respected friend R. L. Taylor, Senator in Michigan, and President of the National Bee-keepers' Association, had the advantage of country birth. He was born on a farm at Almont, Lapeer Co., Michigan, Nov. 3, 1839. This was not the only vantage ground of our young candidate for a place of influence in the world. He was the son of Scotch parents who were pioneers in that new heavily timbered part of Michigan. We need hardly say more to prove that our friend was early taught to be religious, truthful, honest, and industrious, for how loyal are almost all the Scotch to all these grand principles, which are the very basis of true manhood! When I add to all this the fact that the parents were sturdy and vigorous, able to carve out a home in the forest wilds, I have said enough to show that our friend was born to unusual fortune. The mother, though a pioneer farmer's wife, and mother to fourteen children,

still lives in good health, at the age of 79. Ten of the children still survive. President Taylor is the oldest of the six surviving sons. Like most farmer boys, young Taylor worked on the farm summers, and went to common district school in the winter. At the age of 19 he lost his father, who was carried off by an accident, when the severe and arduous duties of a large farm devolved on our friend. But he had learned to labor, and was equal to the emergency. But our friend aspired to a college education. He taught winters, and prepared himself for the Classical Department of the Michigan University, which he entered in 1862.



HON. R. L. TAYLOR.

In 1865, a thirst for business, which robs so many college students of their diplomas, took Mr. Taylor from the college. He entered mercantile life, which he followed at Almont very successfully for three years. But mere business was not wholly to Mr. Taylor's tastes, and so he spent his spare time—every determined man, however prompt in business, can find spare time—in the study of law. He was admitted to the bar in 1869. In 1872 he was elected Register of Deeds by the largest majority ever received by any county officer of his county. He then moved to Lapeer, where he has resided ever since. Two years later he was re-elected. In 1877 he resumed the practice of law, and was elected Prosecuting Attorney the following year.

At this time, fortunately for apiculture, two colonies of bees fell into Mr. Taylor's possession. His early life and habits had developed a taste for rural life and pursuits that had not left him with his youth. Country air and landscape still lured him toward the country, and led to the purchase of his present beautiful home in the suburbs of Lapeer. His bees increased rapidly, and his interest kept pace, owing, doubtless, to the success which marked his labors from the first. Thus he declined a re-nomination as Prosecuting Attorney, and very soon gave up the practice of law, that he might devote his entire time to his bees. Thus here as everywhere Mr. Taylor is consistent. He

preaches exclusive apiculture for the apiarist, and does what very few of his colleagues in this faith do—he practices what he preaches. He is, perhaps, the largest bee-keeper in our State.

As an apiarist he stands among the first. His cautious, scientific, thoroughly informed mind grapples even with foul brood, and the fell disease is worsted in the struggle. He told me once, as I visited his apiary, that he rather enjoyed the malady, as it was interesting to watch and study it. How few are cautious enough to hold this scourge at arm's length, even though it be right in the apiary!

Mr. Taylor is one of Michigan's best bee-keepers. The American Society is honored no less than Mr. Taylor in his presidency. He is so expert in bee-keeping that he can "feed back" at a profit, and can produce an immense crop of comb honey—his specialty—without any use of separators, and yet take the very cream of the market. Like nearly all successful bee-keepers he is very ingenious. Every thing about his apiary is neat, orderly, and convenient. His invention to fasten foundation in the sections is doubtless one of the very best in use. He uses the new Heddon hive, and would have no other. One has only to see him manipulate these hives and find the queens, to become convinced that, in his hands at least, they are a tremendous success.

Mr. Taylor's style as a speaker and writer is quiet, earnest, but very convincing. He is candid, very cautious, and rather conservative; so those who know him place great weight upon his opinion or judgment. Slow to draw conclusions, his conclusions rarely need reconsideration. In our literature, in our conventions, and, best of all, in his home city, he is a power. His presence is felt to be of signal advantage.

That Mr. Taylor's neighbors appreciate his worth is evinced in the fact that he was elected to our State Senate in 1888, where he was an able and influential member. He is renominated for the position, and, with almost no doubt, will be re-elected.

Mr. Taylor has been a member of the church for over thirty years. He is an elder in the Presbyterian church, and thus again honors and is loyal to his Scotch descent. But there is no need to publish the fact that Senator Taylor is a Christian. The fact shines out in all his life and acts. He is a true, clean, reverent man—one of the men that always make us feel better when we have associated with them.

Mr. Taylor has been married for nearly a quarter of a century. His wife is a fit companion for such a husband. Like her husband she takes great interest in religion, temperance, and all else that is good and helpful to others. Though they have none of those best adornments of the home—sweet, loving children, yet their home is one of those social centers that so richly bless every community where they are found.

Agricultural College, Mich. A. J. Cook.

Friend C., we all know you have a remarkable talent for studying bugs and insects; in fact, you often find out a thousand little things about them that perhaps the most of us would never notice at all. But I did not know before that you had such a rare faculty of taking in—or, perhaps I should say, *recognizing*—all these little individual traits that go to make up a man's character. My acquaintance with friend T. has been mostly at conventions; and as I read your description, point after point, it almost made me smile to see how carefully you have filled out the peculiarities and qualities. Why,

your pen-picture would almost enable one to know the man, even if the reader did not have the excellent portrait, furnished us by the half-tone process. We can all rejoice that friend T. has seen fit to take up bee culture—yes, even if he is a little severe sometimes on some of us whose loose ways of thinking and speaking contrast so strongly with his own cautious and careful ways.

THOSE CLOSED-END FRAMES.

ANOTHER ENTHUSIASTIC ADMIRER OF THEM.

During a few of the past rainy days I have been looking over Ernest's notes of travel, and I have laughed more than once while reading them since the Sept. 1st issue, and there are several others that have enjoyed it too. In 1886 there was a request in GLEANINGS for an expression concerning the reversing frame. I then expressed my opinion that they were good, but their full value would not be appreciated unless they were used with an end-bar $1\frac{3}{8}$ wide (the closed-end frame), and a division-board on each side, fastened in place by a wedge.

On page 641, Sept. 1, you make mention of the closed-end hanging frame used by Mr. Tunnicliff, in the hives of his 400 colonies. In a letter received from the Home of the Honey Bees in 1884, in answer to one I wrote concerning the wide end-bar, it is stated as dictated by A. I. R. that the wide end-bar was not practical, so far as rapid handling was concerned. Well, now, I should say that there is to be a change of opinion at the Home of the Honey Bees, or GLEANINGS is not an indication of the future. But let me give you a few points that may not have been noted by you, Ernest, on page 670, Sept. 1.

Several years ago I noticed that the wide-end-bar frame prevented that clogging of the ends of the narrow frames, and the hive with comb and honey; and the number of times that bee-keepers have said, "I wish the fools would put the honey where it belongs" is a strong argument for closed-end frames. Secondly, there is an air-chamber at the ends of the frames, preventing that needlelike frost from extending between the combs in winter, which is another valuable feature. Thirdly, I place a strip of lath, 8 inches long, at each end of the hive, perpendicularly. Shove up one of the division-boards (I always use two), then your four or five frames, then your other division-board, and put your packing in good and tight, and your bees are just as well off as in a chaff hive, and in a single-walled hive at that.

I think I hear some of you say, "I guess not." Well, here is what I have tried and seen tried for several years. Make your hive $12\frac{1}{4}$ wide inside, bee-space at the bottom. The hive-body should be 9% deep, all around. To make the entrance, a strip of shingle one inch wide is pushed between the hive and bottom-board on each side of the hive (*a la* C. A. Stone, Southbury, Conn., 1878). The frames are then placed in as before described. Three strips of burlap, 20 inches wide by 24 long, are folded so they are 20x12; one of these is laid across the top of the frames, with the folded edge just reaching over the top of the opposite division-board. The other two are put in the same position for the other side, and the packing is put in. Now place on the top of the frames a half-length barrel-stave with a $\frac{1}{2}$ -inch-square stick tacked on the under side at each end. One of the burlap cloths from the side that the two are on is laid over the stave, then the one from the other side, and then the second of the two. Thus

we have six thicknesses of burlap on top, and a $\frac{3}{4}$ bee-space at each end, and nearly 2 inches of packing on each side. A folded newspaper is placed on the top of all, so it will just stick over all around and allow you to put on the cap. I have seen these hives stand in the most bleak and windy places in Connecticut, and there are a few of them that are bad enough. These hives have stood the test by the side of the chaff hive, and in every respect were preferred.

Right here I wish to say, that, with the wide-end-bar hanging frame, I, with quite a number of others, want two division-boards, one on each side. That is so that the hive can be opened from either side; and I like a long strip of wood 12 inches long as a key for each side, in preference to a thumb-screw, having used both because I can handle the wedge faster and easier. I prefer the lag strips on both sides of the division-boards at the ends $\frac{1}{2}$ inch thick, 1 inch wide, so that the division-boards, when they become sprung, can be turned around so as to spring them back by using the wedges.

With all this rigging and complication, I can handle fully twice the number of hives that I can with the common hanging frames, taking the season all through. But if you undertake to handle every comb separately, and have a very strong colony, it is a little slower; but in such cases I shake the bees from the comb in front of the hive, and keep right along. I have not been troubled with combs being so bulged that they would rub with the $1\frac{3}{4}$ -spaced combs, because I generally use full sheets of foundation; and whenever I have used only foundation starters I use them between full combs.

I tried the single reversing comb and the whole hive reversible for some time, with both wide and narrow end-bar frames, and I have been forced to accept the wide-end-bar hanging frame. It came slowly, and has been a bitter dose; but it is here; and for the L. size frame it has no equal. With me and some others it stands wide-end bars and reversing wires.

Try a few hives with frames $4\frac{1}{2} \times 17$ inches, inside measure, and try a cap with sides 13 inches deep, front, and $11\frac{1}{2}$ back, allowing the sides to project $1\frac{1}{2}$ inches below the front board of the cap. These deep caps have proved a very beneficial thing in three points. First, they make first-class protection in winter, late fall, and early spring. Second, bees will go into the sections quicker and earlier in the season, which is quite an item. Third, the bees do not desert the sections late in the summer.

Bees do not cluster quite so early in the fall, which here in Connecticut is quite an item; and this deep cap, wide-end bar, reversible frame, with the two division-boards and chaff-packed-bottom hive, will be the hive for that fourth class of bee-keepers mentioned on page 697. It has stood the test for years past in cold and windy locations, and in warm and sheltered places, with good results. H. L. JEFFREY.

New Milford, Conn., Oct. 15.

There is no doubt that the closed-end frames are a great deal warmer for winter. Both Elwood and Capt. Hetherington have urged that, and their statements are not to be lightly esteemed. With a division-board on each side, and closed-end frames, we shall virtually have a double-walled hive out of one made of $\frac{3}{4}$ lumber. While the idea is by no means new, I am glad you suggested it, for it is an opportune time for giving the plan a trial. For practical working, I do not believe that the majority of bee-keepers would like two division-boards. The bee-keepers I visited, using fixed distances,

used only one. It is true, the extra division-board gives added protection; but can not the exposed side—the side without the division-board—be pointed toward the south, or that direction from which comes the least cold wind?

MANUM'S MEDINA VISITOR.

MR. MANUM'S RECOLLECTIONS OF THE THINGS SAID AND DONE.

"Jennie, I wish you would step into the shop a moment" (the shop being adjacent to the house).

"Yes, sir; what is it?"

"There; do you think this box will hold all the lunch you have prepared for me to take to camp-meeting?"

"Yes, I think so; but how will you prevent the pies and cake from getting jammed if all are put in together?"

"Well, I am going to nail cleats on the inside, three inches from the bottom, and after the pies, etc., are put in I can fit another bottom over them and then put in more stuff, and then another bottom, and so on until the box is full."

"Oh, yes! I see; that will be nice."

"There, Mr. Manum; some one has just driven into the yard—two gentlemen and a little girl, in a carriage. I must scud back into the house, for they will probably be in here in a moment."

"I will step out and see who they are. Why! how do you do, Mr. Crane?"

"Quite well, thank you. I suppose you know who this gentleman is I have with me?"

"Well, I imagine it is Mr. Ernest, the lost child—or, rather, the one whose whereabouts for the past few days has been a mystery to me. Yes, I can see the 'Root' sticking out of his eyes, even though they are covered with glasses. How do you do, Mr. Root? I am glad you have got here at last," giving the "Root" a hearty hand-shake as he remarked.

"Yes, Mr. Manum, I am Ernest, and I feel that I owe you an apology for my conduct in not keeping you posted as to my whereabouts the past few days, as no doubt you would have been in camp with us on Lake George had you known I was there."

"Yes, Mr. Root, I had intended to join the party on Lake George, in company with you, as I had inferred, from what you and Mr. Larrabee had written me, you were to visit me sooner, and that I should have the pleasure of your company on the way to the camp. But instead, you went directly to the camp; and, as friend Larrabee expressed it in a recent letter, I was 'left in the soup.' But, as he reports a very enjoyable time, I will overlook it, and grant the pardon you ask. Now, Mr. Crane, let me put your horse in the barn, and we will have a visit all together. Let us go into the shop, as I suppose you will both prefer that to the house at present. Jennie will soon have tea ready, and then we will go in." So, into the shop we go, where we have a regular bee-convention.

"Now, Mr. Root, if you will tell me how many days you can stop with me I will plan a little in order to have you see as many of our Vermont bee-keepers and their apiaries as possible, for all are on tiptoe, and ready to spring at a moment's warning to give you a welcome."

"Thank you; you are very kind; but I must go to-morrow."

"What! go to-morrow?"

"Yes, I must be in Troy, N. Y., to-morrow night."

"Well, then, why under the sun didn't you stay at home? for surely this hurried flight through the State is far from satisfactory. How much more will you know about Vermont and her bee-keepers than you did before you came? Why, you must stay a week, *sure*; nothing short will be satisfactory to us; what say you, Mr. Crane?"

"Well, I am of your opinion, Mr. M.; but, just think; he stopped with me only a few hours; and if he stays with you until to-morrow afternoon you have no cause for complaint, as he assures me he *must* go."

"Very well, then, Mr. Crane; suppose you stay here all night, and we will make it 'warm' for the young Root before morning, as we will keep him up all night so as to make all we can of him while he stays."

"Really, it would be impossible for me to stay with this little girl," said Mr. Crane. "But I should like to, for I think the young man should be punished for not making us a longer visit. But my experience teaches me that *you* are pretty good at keeping your visitors up to a late hour, so I will risk you with him."

"Surely, gentlemen," said Ernest, "you are very considerate. I only wish I could remain a few days longer, but it is impossible."

"What is this you have here, Manum? This is something new, isn't it? I never saw any thing like it before. What do you use it for?" asked Mr. Crane.

"Why, Mr. Crane, is it possible that you do not take the papers? Why! this was illustrated, and its use explained, a year ago in GLEANINGS. It is my queen-nursery, and a useful thing it is too. There, you see one of these half-depth frames holds 16 of these little boxes; and by hanging a queen-cell in each and hanging the frame (nursery) in a colony, whether they have a laying queen or not, the cells will be kept warm, and the young queens will hatch as well as though they had not been removed from the combs. In this way I always have a quantity of virgin queens on hand; and since I have learned how to do it, I prefer to introduce virgins rather than laying queens. In fact, I have better success with them. I have introduced over 500 virgin queens this year, and I don't think I have lost over a dozen."

"Well, well!" exclaimed Mr. Crane; "why haven't I known of this before, Manum? Why haven't you told me about this thing before? I like it; it is the best thing of the kind I ever saw."

"Well, Mr. Crane, my answer is, Why don't you read GLEANINGS? and, furthermore, why don't you write for it? Again, why don't you come up and see me occasionally, as you used to years ago? I am the same Manum that I always was, only that I know less about bees than I used to in my own estimation."

"I see you have some of our excluding zinc here; how does it work?" said Ernest.

"Yes, I have enough for 65 hives; but it does not exclude the queens from the upper story, as I find that very many of my queens got up into the upper story this summer, so that really it is not safe to use it for the purpose of excluding queens."

"What is this used for?" asks Ernest.

"That is my section-gluer for putting four-piece sections together. A good smart hand will put together 1500 to 2000 per day with it."

"And what is this for?"

"That is a block with which I make my bee-escapes. This block has been in use over 15 years. You see it is simply an inch hole bored in this block of hard wood, and this is the 'punch,' made cone-shaped so it will fit the hole loosely. I now cut common window wire screen into three-inch-square pieces, lay a piece

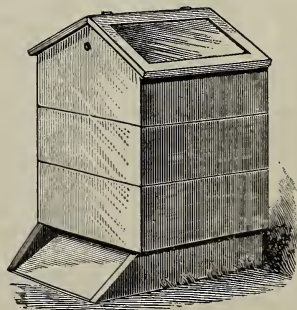
over the hole, and with the wood punch I press the screen into the hole which forms the escape, making it cone-shaped, and then with the point of my knife I cut two of the wires at the tip of the cone crosswise—thus, \times —and with an ordinary lead-pencil passed through the \times , the opening is made just the right size to allow one bee to pass through. Then I tack the escape over an inch hole at the gable ends of my hive-caps; and by placing my sections of honey under the caps, the bees will very soon pass out through the escapes and can not return."

"And here you have used these escapes over fifteen years, as well as many other (to me) new things which you have here, and have never told us of them. Now, Mr. M., why don't you mention these things and their use through GLEANINGS? It is these little useful things that we want; so hereafter, when you get up something new, please tell us all about it in your articles. They will interest some if not all who read GLEANINGS; and whenever you can, send us a photograph of them."

"Well, gentlemen, Jennie says, 'Tea is ready,' so let us go in and sample her cooking."

After tea Mr. Crane departs for home, and Ernest and Manum settle down for a good talk, and lay plans to make the most of the next day. I noticed all the evening that my friend Root was full to overflowing with thick top-bars and closed-end frames. Really, he did not seem to be interested in talking about any thing else; and I thought to myself, "This young Root has thick top-bars and closed-end frames well rooted within him; but to-morrow I will make an effort to root them out of him." So, having laid our plans for the morrow, we retired at a late hour.

"Good-morning, Mr. Root. The weather is rather unfavorable this morning for carrying out my plans, as you see it rains very hard. My intention was, since you must go to-day, to take you to Burlington, 25 miles from here, where you could take the 9 P. M. train for Troy; and on the way to Burlington I could show you four of my apiaries; then we would call on Mr. Eugene Cox, who has some 75 colonies; then next we would call on Mr. Fred Dean, who has 50 or more colonies; and then Mr. H. Stilson, with 140; and then Mr. W. H. Dodge, with his 200 or more colonies; hence you see I had planned to give you a lively time if it had been pleasant. But as it is we will just settle down and have a visit all by ourselves. I wish it would stop raining long enough so I could make a picture of you standing by my new hive hot-house; but as that is impossible, I will show you one I made a few days ago which I will give you to show to the readers of GLEAN-



MANUM'S HIVE HOT-HOUSE.

INGS if you care to reproduce it for that purpose. You will notice that it is simply one of my Bristol hives with a glass roof. I make a

shallow box just the size of my brood-chamber, and put in about four inches of earth, sow my seeds, and place the box over a strong colony early in the spring, and then place this glass-roof cap over all; and the warmth from the bees at bottom, and the heat from the sun at the top, will cause the seeds to germinate very soon; and the warmth from the bees will prevent the plants from suffering on cold nights. In this way I can have as many hotbeds as I wish; and, furthermore, these hives may be used for solar wax-extractors. And now, Mr. Root, the hour has arrived for you to take your departure. The stage is coming for you. I am very sorry you can not make a longer stay; and here let me say, that, whenever any of the members of the Home of the Honey-bees wish to visit Vermont bee-keepers, you send an *older* person—one that can not *fly* so swiftly as you can—the veteran *A. I.*, for instance—that we may have a little more time to visit. Notwithstanding that, I have enjoyed *your* visit very much indeed; but when I am favored with agreeable company I like to keep it as long as I can." A. E. MANUM.

Bristol, Vt.

Most of the bee-keepers whom I visited felt that I was paying them a rather short visit; but I had planned, by getting copy ahead, etc., to be away for only one month. As I had to travel something over a thousand miles in all, and visit bee-keepers and friends all along the route, you can readily see that my time had to be put on rather short rations for each; and those bee-keepers who were situated on the latter end of the journey, I am sorry to say, got shorter visits than those I called on first.

I make this explanation, that the kind friends whom I visited, and others whom I may visit in the future, may know why I was in such a hurry. My trip in Vermont paid me well, and one day with you was a good deal better than nothing. I saw many things at your place that interested me. But I found along the route, that, when I visited a representative bee-keeper of the locality, I saw pretty much the same sort of bee-keeping within a radius of a hundred miles. You and Mr. Crane were representatives of your locality, and in a sense I saw a good deal of Vermont bee-keeping.

Now, really, about that queen—excluding zinc failing to accomplish its object. I am somewhat troubled about it. We had had reports that in exceptional cases the queen got through it; and you remember that Mr. McIntyre, of California, used these same boards with a good deal of satisfaction, while he admitted that occasionally a queen would get through. These reports, together with your own statement, influenced us to get a new set of dies; and now I am happy to state that they are made, and the perforations of the zinc are exactly $\frac{1}{10}$ of an inch—the size adopted by Dr. Tinker, and recommended by McIntyre. The old zinc we had (and which was sent you) measures about $\frac{1}{10}$ —at least some of the perforations. As it was too large it is no more than fair that we offer to make the matter right in some way.

MEDICAL FACTS,

FROM A DOCTOR WHO DOCTORS WITHOUT VERY MUCH MEDICINE.

We, and I think a great many thousands of the readers of GLEANINGS, are thankful that it has such extra good "Roots" that branch out in so many interesting and important subjects for the good of the people, when the bees fail to store surplus honey for us. It used to be said, that the *love* of money is the root of all evil. That was when preachers drank whisky, and used tobacco, without thinking of roots, good, bad, or medicinal. I used to think, and am now of the same opinion, that the science of medicine, as taught and practiced sixty years ago, was the root of more evil, suffering, and death, than all other evils combined. The science of medicine was called "scientific ignorance;" and the practice, "murderous quackery."

A great many quit the practice of medicine after finding out that they were doing more harm than good. An old doctor of the "regular faculty" in Ohio told me that he did not know that he ever cured a patient, and said that he knew he had killed some, but not intentionally.

For many years I have admired the candor and honest acknowledgments of Dr. O. W. Holmes. When he said, "It were better for the people were all the medicine of the world cast into the sea," he meant medicine used by the regular faculty, such as he had been taught to use. I don't think he meant water, honey, and other domestic remedies.

An experienced regular doctor in Louisville, Ky., told me that the people would be better off without than with such medicines as he used; but he said he had to visit patients, and they would not be satisfied without medicine. No wonder that homeopathic patients get along so much better when the doctor gives little sugar pellets without any medicine.

A reverend doctor of divinity told me that he quit the regular practice of medicine because the medicine did more hurt than good, and he had to lie to his patients. He also said he thought it necessary to lie to patients, or it was *better* in many cases than medicine. Many years ago one of my comrades was sick with fever, and the regular doctor said he would die, as most of his fever patients did; but in the night, when the watcher was asleep in his chair, the patient, "burning up with fever," tongue and lips cracked open, "dying with thirst," reached the pail or pitcher of water and drank all he could. When the doctor came the next morning he was surprised to find his patient better—saved by nature's remedy, contrary to the doctor's science and murderous treatment. Thank the Lord, the doctors are progressing, using more common sense, and do not ruin as many constitutions as formerly. One of the professors in the Ohio Medical College, in Cincinnati, said to us (the students of four medical colleges) in one of his clinical lectures in the hospital, that an old woman's remedy had done more good than all the remedies in the *materia medica*. He also advised the use of warm water and vapor baths.

In North Carolina, at one time in 1865, I sent a requisition to Wilmington for medicine, and failed to get any. Surgeon Thomas, ex-professor in Keokuk, Iowa, Medical College, said he would go himself after medicine. When he came back he said there was none to be had. I told him that I was a radical botanic and hydropathist, and could prescribe better medicines that were right handy by than were furnished by the government.

It is recorded in history, that Surgeon Daniel Tyrrell was frequently called to visit other

surgeons' patients after it was known that such cases as were dying, day and night, under "old school" treatment, were getting well under his botanic (physio-medical) treatment. In Rome, Ga., in 1864, one doctor who belonged to the regular faculty lost seven patients in one night, and said to me that he thought four or five more of his patients would die before the next morning. He had only three wards and but few patients, while I had six large wards well filled with sick and wounded, and more being brought in from the field and field hospitals every few days, and I lost only one patient in over a month. The said regular had proclaimed with an oath that there ought to be a law to prevent all doctors practicing medicine who did not belong to the "regular faculty."

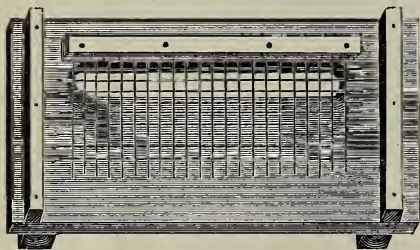
One fact more: I think I have saved many lives by giving enemas of lobelia in plenty of warm water, and frequent drinks of pleasant herb tea. If the regulars knew how to use lobelia for inflammation of the bowels, they might save such cases instead of letting them die with opium or morphine. The whole system can be relaxed, and inflammation in any part subdued with small but frequent doses of lobelia to stomach or bowels. The addition of lobelia is better for dysentery than clear hot water, which is good, "you know."

D. TYRRELL, M. D.
Toulon, Ill., Oct. 8.

SAWYER'S BEE - ESCAPE.

A DIFFERENT PRINCIPLE.

I mail you to-day a model of my bee-escape. I have been using it the last two weeks, taking off comb honey from 76 stands of bees, with perfect satisfaction, not leaving more than three to ten bees in the supers, even when I raise two supers at a time.



To make the escape, cut a slot in the honey-board, 12 in. long and $\frac{3}{4}$ wide, and bevel out one side. The wire cloth is to be cut 14 in. long and $2\frac{1}{2}$ wide. One side and both ends are to be fringed $\frac{3}{4}$ inch, the fringe coming over the beveled side of the slot. I use a honey-board $\frac{1}{4}$ in. thick, with a bee-space top and bottom. By having a thicker board, the escape could be made within it so as not to interfere with the bee-space, by cutting some of the wood away in the board. The slot in the board must be made in a line with the opening in the sections. I use the same honey-board for covering the brood-chamber and sections by closing the slot when not in use.

I am an A B C scholar, and have been reading GLEANINGS since 1885. I have been much interested in it, especially in Reese's and Dibbern's bee-escapes, as I have been anxious to get something that would work satisfactorily.

I should like to have you try it before the season is over; and if you think it is the best out, I should like you to supply brother bee-

keepers with models at 30 cents for one and 50 for both, if you can at that price, and pay me what you think right.

JAMES SAWYER.

Du Quoin, Ill., Sept. 17, 1890.

Friend S., something quite similar to the above has been in use for years, but it was not applied to a honey-board. I will explain to our readers, that the engraving does not show the edges of the wire cloth raveled out sufficiently. The bevel in the slot should reach to the edge of the fringe on the wire cloth; and the wire of which this wire cloth is made should be so light that the bee raises the end as it crawls out under it. I discarded a similar arrangement years ago, because the wires were so easily doubled up if any thing touched them. Now, it occurs to me, however, that a thin piece of wood or tin could be so placed as to protect these fringed ends from injury. Arrangements of this kind work positive; that is, a bee can, under no circumstances, get back after he is once pushed out under the points of the wires.

ERNEST'S NOTES OF TRAVEL AMONG THE BEE-KEEPERS OF YORK STATE.

ON THE CATSKILL MOUNTAINS.

After romping around Shady Glen (and it seemed to me that the parts of York State I visited were full of them) we rambled back to the hotel—brother Charles and I. Glancing back I noticed the whole front range of the Catskills—a most beautiful sight to me, as it was my first initiation to mountain scenery. There were several gentlemen at the hotel, who, I had been told, were discussing my bicycle trip of the day, and with doubtful heads agreed that it was impossible. To settle the matter, one of them was introduced to me. "Why," said he, "I have been driving all day with a good horse, and have gone only 30 miles; and here you say you went 45 miles in about five hours and a half."

"That is easy to explain," said I. "When you are going down hill you are obliged to walk the horse; and likewise in coming up the hills."

He assented.

"Now, then," continued I, "when I go down hill I coast"—that is, I let the bicycle out to almost its full speed if the road is not too rough; and I travel, I suppose, on an average, when going down hill, at the rate of about a mile in five minutes, and sometimes much faster. If there is another hill just ahead of me, with very little effort I can keep up the velocity acquired down; and the result is, I can ascend the next hill with very little effort. If it were not for friction, by the well-known law of mechanics I could ascend the next hill without trying at all. Now, then, I do not lose time in going up and down hill, as you do with a horse."

"Oh!" said my friend, "I see. It is all plain now."

By this time the supper-bell rang, and I think I managed to do ample justice, after the exhilarating ride. Not long after, Mrs. Root came back. She had received a letter from O. R. Coe, of Windham, N. Y., inviting us to visit him. It will be remembered that he has written occasionally for the journal. He owns between 200 and 300 colonies, and is also proprietor of one of the best hotels in the Catskills.

I was to wire Mr. Coe when we were ready to leave for Windham. Accordingly, after dinner the next day, I took the wheel for the village, three miles away. It looked somewhat like rain, but I thought I could get back before it actually began to storm; but, unfortunately, it poured and poured, when I had got just about half way. Hurrying as fast as I could, I forgot to observe the direction I was going, and I got on the wrong road, a couple of miles out of my way. Back I came through the mud and rain, dripping wet. In some places the hills were so steep that I had to dismount and plod along by the side of the wheel, with great clods of mud hanging to my low cloth bicycle shoes. I finally reached the village, sent the telegram, and started back. The roads began to dry off from the effects of a downpouring sun; and before long I was back at the hotel, pretty nearly as dry as when I started out, but somewhat muddy.

We were about to go in to supper when a mountain wagon drove up, bearing the name "Windham Hotel." A middle-aged man stepped out, whom I took to be Mr. Coe. Advancing toward me he said, "This is Ernest, I suppose?" I then introduced him to Mrs. Root and to my relatives, Mr. and Mrs. Bedell. As it was a little late, we took a lunch, fastened the bicycle on the wagon, and started on the road to climb an elevation of about 1200 feet for Windham, eight miles distant—a point in the heart of the Catskills. It was growing dark fast, and we did not see very much scenery that evening. In the meantime, Mr. Coe and myself talked bees as only two bee-men can. He has kept them for a good many years; but on account of difficulties in wintering he had lost about as much as he had put in. He could bring them through the winter well enough; but along in the spring he would invariably lose heavily from spring dwindling. He had tried all the best methods for wintering, both indoors and out, but he invariably encountered that dread malady along in April and May. The curious thing was, that, with all his modern improvements, box-hive men would carry through successfully their black bees. The result was, that, in order to carry on bee-keeping, he was obliged to buy from them, transfer, and start anew. I suggested that it might be that the black bees would winter better than his Italians. No, that could not be it, because he had tried in vain to winter black bees. "Why," said I, "why don't you leave them in your single-walled hives outdoors, as your box-hive friends do?"

"I did try that, and still they would die."

The facts were, he was about 1500 feet above the general level of the surrounding country. The winters are very cold and severe; the springs backward, and generally unfavorable to the bees. There is no doubt that Mr. Coe has conditions to combat against that many of us generally do not have. But there were those old box-hive bee-keepers—how is it that their bees, apparently neglected, came out all right in the spring? That was a conundrum that I, a supply-dealer, editor, and an advocate of modern improvements, could hardly answer, and I should be glad if any of our readers would solve it. Mr. Coe had as good a wintering repository as I have ever seen. He has practiced all the best methods, tried all the different ways of ventilation—done every thing, in fact, and yet the general result seemed to be the same in the spring.

On this ride Mr. Coe also explained his project of moving his bees to the alfalfa regions of the West. He would either move them this fall, or very early next spring, before spring dwindling had a chance to commence. He desired to know what I thought of it. I told him

I thought it risky business. The alfalfa fields seem to be boundless in their resources for nectar, and he might make a big failure of it, or a big success. At best, moving bees so far is hazardous. To this he explained that he would lose them all anyhow, if he attempted to winter them at home, and he rather decided to accept the other horn of the dilemma—sending them to the alfalfa regions. He had some 500 hives filled with nice perfect combs on which the bees had died, the same carefully stowed away in his bee-house. This was capital lying idle, and he would never be able to use it or sell it *unless* he could move the same to a locality where he could both winter the bees and get paying crops of honey.

This was about the strain of our bee-talk on that pleasant evening ride; and ere long we ran up to a large four-story hotel, with accommodations, if I remember correctly, for about 60 guests. It was so dark that I did not recognize the place from the pictures I had seen of it; but that you may get a view of it, I will ask Mr. Coe to send an electrotype, that you may all see the place.

After being introduced to Mrs. Coe and to his son and daughter, we were conducted to our room; and the next morning, from the window there was revealed a beautiful view of the mountains in the rear of the hotel. What a lovely place, we thought! It would be delightful to stay here during the summer months—cool and bracing, even during the hottest weather; never any malaria, and always good sight-seeing!

OFF TOURING AMONG THE MOUNTAINS.

The evening before, Mr. Coe had told me that he was going to make up a party of two loads to drive among the mountains, the objective point being the Mountain House, and the now almost world-renowned Kaaterskill. The latter, I suppose, is one of the most magnificent and expensive structures for the accommodation of guests that was ever built. It was erected under circumstances which I will presently explain.

After an early breakfast, Mrs. Root and I, together with a party of several others, took seats in one of the mountain wagons. These wagons look very much like ordinary stages. They have three seats, each holding three persons, or nine in all. As I have before remarked, these mountain horses seemed capable of performing marvels in drawing these heavy loads. They have learned to economize their strength, and I suppose they will last about as long as the average horse on roads more level.

As we climbed into the wagon, Mr. Coe handed me an aneroid barometer, which he had purchased of A. I. Root, saying, "Here, you may carry that."

"What is it for?" said I.

"Why, it is to record elevation. You can tell at any point in your journey just how many feet you are above the surrounding level."

It then flashed through my mind that barometers are used for that very purpose.

"Now," said he, "notice where the pointer stands on the dial, for we are going to climb the mountains to-day."

Up, up, and up we went; and as we ascended, the little pointer on the dial recorded the number of feet we ascended in a perpendicular, until we were 1000 feet higher. What astonished me was, that several times when we appeared to be going down hill that dial showed that we were actually *ascending*; and sometimes it would behave the other way. It seemed to me that it did not know what it was about; but it was evidently correct.

At one point I remember Mr. Coe called out,

"Now, ladies and gentlemen, perhaps you would like to get out and walk a little, and get rested." After riding a good many miles we were glad to avail ourselves of this suggestion. On arriving at the top we were also glad to get in and ride down hill. Again the little aneroid barometer was consulted. Yes, down the hill the pointer indicated—300, and finally 500 feet lower. I noticed that, even for a few feet of the descent, it recorded it quite accurately.

I was curious to observe that some peaks appeared to be very much higher than others. Mr. Coe informed me that such a peak, pointing to one that seemed very much lower, was in reality 1000 feet *higher*. As we rode along, every once in a while a panorama of scenery would open up as a clear space between the trees gave us a view. The Catskills, unlike the Rockies (the latter are the result of upheavals), were made by glaciers; and by intently looking at the rocks, and the peculiar formation of the valleys, as well as the shape of certain peaks, this explanation seemed to be very reasonable. It seemed funny to think that this rugged and mountainous country might at one time, before the advent of the glaciers, have been level, like our own State of Ohio. Just how long ago that was, etc., I will leave to the geologist.

AT THE MOUNTAIN HOUSE.

We went through two or three little villages that seemed to be sustained largely by pleasure-seekers during the summer; and finally we were told that we were in the vicinity of the Mountain House and the Kaaterskill Hotel, and presently we were in the rear of the former. After stepping out of the wagons, our party passed through the long hallway, then out into the front, on to a large table rock. Here we were, something over 2000 feet above the valley of the Hudson River, overlooking an immense cliff—a veritable balloon view it was indeed. Two thousand feet down—what a sight! map-like, here a village and there a village, and the roadways winding hither and yon. The country beneath seemed to be perfectly flat; but I was told that it was quite hilly. Twelve miles distant (it did not seem half that far) was the Hudson River. Mr. Coe handed us a field-glass. Off in the distance the day boat from Albany was seen going down the river to New York city. Further on were some of the mountains in Vermont. In all my boyhood days I have always desired the privilege of a balloon view, that I might look down upon the country, and view its maplike appearance; and here I was with this aspiration fully realized, but without the attendant dangers of aerial navigation.

Our next point was the celebrated Kaaterskill. Just as we were about to leave I noticed a young lady and her beau. Like many another gallant suitor, he essayed to climb down a ledge of the cliff a little way to pluck a little mountain rose that the girl admired and expressed a wish for. As he clung nervously to a little niche of the rock I fairly held my breath for fear he would lose his scanty hold and be precipitated a thousand feet below. If he had performed this feat to rescue a little child, I would have taken off my hat in admiration. As it was, I thought, "What a poor silly fool he was, just to gratify a mere whim and fancy of a girl, who could not have loved him much!"

Through a winding and narrow path we clambered from one ledge of rock to another, till that magnificent hotel, the Kaaterskill, came into sight—a structure that had cost over a million of dollars, and its origin was—what do you think?—a chicken. "Oh, yes!" said I; "we want to hear

THAT CHICKEN STORY."

To this Mr. Coe readily responded. A certain rich man, before the Kaaterskill was

constructed, together with his family, was in the habit of spending his summers at the Mountain House. He was a very successful lawyer, and *immensely* wealthy; and whenever he went "outing," he wanted the best that money could buy. One day, while at the Mountain House, his daughter at dinner called for chicken. The waiter replied that they hadn't any that day; and the proprietor, when appealed to, settled the matter by saying that they would not go to the trouble of cooking *just one*—not even for the Queen of England, much less for the daughter of lawyer—. Much aggrieved and insulted, as she thought, she related the circumstances to her father, and he likewise became angry, and had some words with the proprietor of the Mountain House. The result of it was, we are told that he took a stroll among the mountains that afternoon. He selected a spot upon which to build a hotel that would leave the Mountain House and every thing like it far in the shade. He purchased a large tract of mountain country; and although it was still late, he announced that, before another season, he would have a hotel up and ready for the occupancy of guests. There was no railroad there then; and during the bitter winter, workmen nearly 3000 feet above the level of the Hudson Valley, constructed what is now known as the Kaaterskill Hotel. Timbers, etc., were hauled up by wagons, at an enormous expense, and carpenters had to be paid double wages, in order to be induced to work in such bitter cold. The result was, the building was constructed and ready on time.

I do not remember exactly now, but I think their rates were from twenty to forty dollars a week. Single articles that cost in most places 5 cents were sold for 25. The wealth of New York city pours in, and seems to delight in paying 25 cents for something that ordinarily costs only 5. I believe it was only during the past season that the hotel was made to pay expenses. I was told that enormous quantities of leavings from the table are wasted. For instance, if a leg or wing of a turkey is cut off and not used for a certain meal, turkey and all is thrown away. This may be exaggeration; but there is no doubt that there is an enormous amount of stuff wasted.

The proprietor of the Kaaterskill, when he built this hotel, did so with the intention of running out the proprietor of the Mountain House. He would have every thing so magnificent in its appointments that no one would patronize his rival; but the result showed, as it *does every time*, that his rival did a bigger business than he ever did before. The manner in which the Kaaterskill was advertised and boomed drew people. Those of more moderate means, instead of patronizing it, went to the Mountain House.

A DOG STORY; HIS FLYING LEAP OVER THE FALLS.

After getting our party together we started our again for another point—the Kaaterskill Falls. The funny thing about it is, that they are, to a certain extent, artificial. They dam the water up at the height of 1500 feet, and when a lot of people are there to look on they open the gate and let the water fall, and thousands of people go to see it. We then clambered down and down, until we were half way down the gorge. We waited and waited for the water to fall. A small quantity was running over, but we waited in vain for a big onslaught. There had been so many visitors that day, that they had used up all the water. While we stood down by the bottom looking up, Mr. Coe told us of a little incident. The owner of a handsome and valuable dog had left his animal at the top

of the cliff, overlooking the falls. The man had gone down the same path that we had; and on looking up he saw his dog. He called to him; and the faithful animal, in obedience to what he supposed was his master's wish, and having entire faith that he would ask him to do nothing that would be to his peril, leaped from the height and was dashed to pieces on the rocks below, greatly to the consternation of the owner, and all who witnessed the affair. As we passed up the pathway there was a stone, and on it was a little epitaph telling the circumstances.

After taking in a few more objects of interest, which I have not now time to mention, we started for the hotel, which we reached toward evening.

[To be continued.]

ANOTHER LARGE ARTESIAN WELL.

THIS TIME AT A PLACE WHERE IT WAS GREATLY NEEDED.

Friend Root:—This (Indian) agency has been located on these grounds, $2\frac{1}{2}$ miles from the Missouri River, 20 or more years. It is situated on the bluff overlooking the river bottom. The muddy river, the sewer into which every thing in a large area of the Northwest drains, has been the only sure water supply for the agency during all these years. Wells have been sunk in various places 80 or more feet deep, without becoming profitable. Cisterns have been completed at the residences all over the village, but it does not rain enough here to fill them, and people have been compelled to buy water, hauled from the river at the rate of 35 cents per barrel. All the Indian agents have tried so hard to save money for the government, and thus increase their popularity in Washington, that they feared to ask for authority and funds with which to drill an artesian well, until during the last (official) days of Major Hill, when the necessary provision was made, and we now have a magnificent flow of water through a six-inch pipe, the lower end of which is 700 feet below the surface. The water has a pressure of 95 lbs. to the square inch; and when allowed to escape through a $1\frac{1}{4}$ -inch hole in a cap screwed on top of the pipe, it is forced upward through a stiff breeze and lost in spray, in which the prettiest rainbows sometimes appear. 70 and 80 feet above the earth. More than 100,000 barrels flow each 24 hours.

This well was drilled through a sort of blue slate and sandstone most of its depth. When about 640 feet down, the sandstone was reached; and in it was found a little water. This water-bearing substance was reached at midnight, when all the people of the village were at rest. The machinery was promptly stopped, and the government bell was tolled until nearly everybody knew that water had been found. The pipe was next extended to the bottom of the hole, when the drill was started again. The porous, sandy substance into which the drill, weighing three-quarters of a ton, was plunged, yielded readily, and with every stroke the volume of water was increased, and so was its pressure, until the honeycombed sandstone was passed through, and the drill was suspended in the mysterious underground body of water. As the drill passed out of the sandstone, the water was full of snow-white sand, fine and sharp; and just here came up about half a gallon of charred wood. It was almost coal. I send you a sample by this mail.

Many water-courses in the United States, which are called creeks, and which furnish power for the movement of flouring-mills and

other machinery, do not afford as much water as is forced through this six-inch pipe. The water is as clear as crystal, and is the "hardest" water I ever saw. It is so hard that it is almost bitter. It can not be used for laundry purposes without first having been subjected to the reaction of chemicals.

There are many artesian wells in this part of the country, and many more are needed. It is believed that the same body of water furnishes the supply for all the wells near.

W. MCKAY DOUGAN.

Santee Agency, Neb., Oct. 10, 1890.

Thanks, friend D. Why not utilize these wells for driving machinery? After the force of the water is spent it will be worth just as much for irrigation. Below is something more in regard to the artesian well which we pictured in our Oct. 1st issue:

I was somewhat surprised to see the artesian well in GLEANINGS. It is a good picture. You ask how deep they have to go for the artesian wells. There are eight between here and Woonsocket, and I believe the shallowest one is 600 ft., and they strike them all the way to 1000. There is no trouble in finding them anywhere in the James River Valley, which is about 100 miles wide; and all up and down the river they are trying for one. In Madison they are down 720 ft. now.

J. W. CHAPIN.

Winfred, S. Dak., Oct. 14.

There, friend C., that is just about what I expected—that is, that the whole region round about there would be tested, and this wonderful vein of water fully developed. Now, I am a great fellow to ask questions. What occurs to me just now is this: In the oil-fields they drill a great many dry wells—that is, wells that give nothing, and at the same time a vein may be struck giving a wonderful flow with these dry wells all around it. Is it so with artesian wells? My impression is, that, where this enormous pressure exists, the water would rise pretty much the same way anywhere in the vicinity, by going the same depth. If I understand you, there is a track 100 miles wide and of indefinite length, where artesian wells are found almost invariably, by boring deep enough.

GOVERNMENT IMPORTING BEES.

A VALUABLE SUGGESTION.

Mr. Editor:—You are aware that we have received great advantage from the discovery and importation of superior bees into America. Possibly there are bees in Africa, India, Ceylon, Philippine Islands, etc., that are superior to our present bees—even to Italians, Syrians, or Carniolans. We should at least know whether there are such bees, and should have a chance to test them. I have had some communication with government officials, and I believe that, if bee-keepers will move in the matter, we can secure such bees, and at no expense to the bee-keepers, and at slight expense to the government. It is certainly an enterprise worthy a trial.

It is suggested to me, that, if the bee-keepers will memorialize the government, through the secretary of agriculture, it will help to secure the object desired. Please bring the matter up in GLEANINGS for Nov. 1, which I hope may be out prior to the Keokuk meeting, so the bee-

keepers may have opportunity to consider it before it is brought up. I have written to the president, asking him to present the matter. The Central Michigan Association passed resolutions respecting the matter at their meeting yesterday. I shall also bring the matter up at our State meeting, at Detroit, Jan. 1, 1891. This is certainly just the kind of work that government can and ought to do. I hope other States will also resolve and send resolutions to Secretary Rusk. If we all move it will be done.

A. J. Cook.

Agricultural College, Mich., Oct. 17.

Well, friend C., if there be any better race of bees on the face of the earth than those we have already, we want them, sure. Friends Jones and Benton, however, seem to have decided pretty well that there is nothing much superior to Italians. Our missionaries in foreign fields will be great aids in this matter.

RAMBLE NO. 31.

JAPANESE BUCKWHEAT IN WESTERN NEW YORK.

We found in many of the counties in Western New York, that farmers were generally sowing Japanese buckwheat, and were giving it a high recommendation, both as to productiveness and quantity and quality of the flour. It was being introduced largely in localities where but little buckwheat had been previously sown, and beekeepers were accordingly rejoicing at the prospect of a fall yield of honey where they had none before. But in Chemung Co. we heard the first adverse report. An old farmer with whom we were riding said it might yield well, but a bushel of it did not produce as much flour as a bushel of the old kind, and he shouldn't sow any more of it; but further inquiry revealed the fact that the mill was to blame. The huller, we believe, would not allow the large kernels to go through; but with a proper apparatus, which had to be used on the new buckwheat, it was as productive of flour as of seed. We presume, however, that this old man and some of his neighbors will refuse to be benefited by the new-fangled grain. Japanese buckwheat has evidently come to stay until something better is found.

From Chemung we pass into Schuyler Co., in which is located Watkins Glen, famous for its wild scenery, and a place of summer resort. We greatly desired to feast our eyes on the actual features of the glen we had so often seen in photographs; but heavy freshets had recently been making sport with bridges, stairs, and ladders, and a general cleaning-out was the result, and the Rambler had to content himself by merely seeing where the glen was located, and imagining the rest.

The waters that come rushing down through these rocky clefts soon find a peaceful resting-place in the bosom of Seneca Lake, another of those beautiful sheets of water found in Western New York. One characteristic of this lake is its freedom from freezing. Its surface is scarcely ever covered with ice. On both sides of the lake are fertile farms. Vineyards are becoming quite numerous, and small fruits of all kinds are largely grown. Black caps were taking preference as a berry. What can not be sold fresh from the bushes, are put through the evaporator.

RENDERING WAX ON A LARGE SCALE.

On the line of our travels through Chemung and adjoining counties we found but little in-

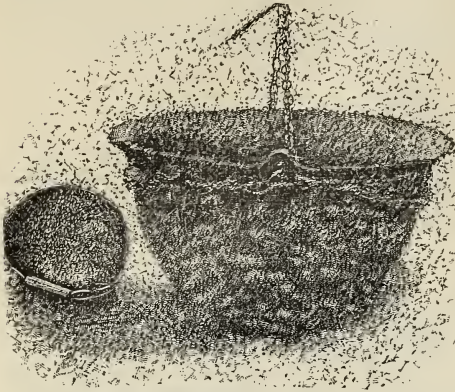
terest in bees. Our cousin Nat, however, had a friend who was quite an extensive bee-keeper, having 250 colonies, and who had lost about 100, and didn't want his name to appear in print; but as he was getting out beeswax on a scale never before witnessed by the Rambler, he had no objection to our describing his method.



MELTING AND PRESSING BEESWAX.

About 1400 combs had been cut from the frames, and were piled up in the cellar. The oldest and most uneven had been weeded out, and were ready for operations. A large iron kettle, of over forty gallons capacity, was hung to a stout pole and crotched sticks with a log chain, and a rousing fire started. Two hundred combs, about the size of an L. comb, were gradually put into the kettle. In less than an hour the mass was seething and foaming in fine style. With a hoe, our bee-man kept agitating it until every lump was melted. Near the kettle was a press after the pattern of A. C. Hatch's, page 492, 1889, only a little more so. The forms of this press were perforated all around, and were left on to supplant the burlap. The contents of the kettle were transferred to the forms, and built up in cider-press style, with racks between the forms. Pressure was then applied with a common bench-screw; and, how the wax did hasten out! The hot liquid was run into a deep wooden tank; and, when nearly full, a plug was withdrawn from the bottom, and the water drawn off. When no more liquid would run from the press, and the water drawn from the bottom, the pure wax was run into square wooden boxes, making cakes of about 50 lbs., and nice shape to ship. Four runs could be easily made in a day, as our modest friend termed it, and over 200 lbs. of wax rendered; $3\frac{3}{4}$ combs would render out a pound of wax, and the dross seemed to be entirely free from wax. Our friend was enthusiastic over the rapidity of the big-kettle plan, and regarded steam and solar extractors as mere toys. "Then," said he, "I have learned something about the nature of the waste. I had a big pile of four of five bushels; and after it became dry I happened to put a chunk in the fire, and it burned a long time. I then raked the whole pile into the fire, and, how it did burn! It kept burning nearly all day. At night it looked like a pile of white ashes, and I supposed it was burned out. Five days after, I noticed the pile again, and it was much smaller; and upon thrusting a stick into it, the center was still live coals. That night, rain put it out. Had it not been for the rain it would have kept fire several days more. Then," said he, "Mr. Rambler, I find this big kettle makes a splendid outdoor feeder. I put in 200 or 300 lbs. of honey or syrup, and put a moder-

ate layer of grass on top; and, just see how the bees will go for it! Why, sir, it is inspiring. Every hive is represented in working up the



KETTLE OUTDOOR FEEDER.

bonanza; and after they get settled down to business there is no effort to rob other hives; and when they get through, all is quiet again. They get away with a power of feed in a day."

We hope the photo will give a realizing idea of the scene. When promiscuous or general feeding is desired, our friend's plan will doubtless recommend itself to the fraternity as well as to the

RAMBLER.

You are right, friend R. Japanese buckwheat seems to be all the rage among the farmers and bee-keepers in New York State. Wherever I visited, and from whatever sources I could gather, the yield, both in size of grain and quantity, has been so superior that next year they will raise nothing else.

Say, didn't your cousin's friend have more or less trouble with robbers entering in and around the kettle of melting wax? In our apiary we would have a scene very much like the one shown, where the bees are being fed as above. It would not matter very much whether it was melted wax or syrup—there would be a perfect hubbub and uproar; but perhaps he does it on a cool or rainy day when the bees would not fly very much any way. Almost all our wax-melting has to be done on such days.

FIXED FRAMES.

A DEMAND FOR SOMETHING THAT CAN BE USED ON OLD FRAMES.

It seems we are feeling around for some kind of a spacer arrangement for our frames. We are beating about the bush for something new, while I suppose we have the very thing we are looking for, if we would only lay our prejudice aside and use it. Any thing which will space the top-bars only will not do, for the whole frame must be rigidly fixed if exact spacing is necessary. I am inclined to think some kind of a closed-end-bar frame, or the Hoffman frame, or something on that order, is about the only thing that will entirely fill the bill. I hope you veterans will throw away all your prejudice, and give us something in that line that we can change to without too much cost.

A great many of us are using your Simplicity hive, frame, extractor, surplus arrangements, etc.; and while we might gradually change our frames, yet we can't very well change every thing.

Ernest's notes are eye-openers to many of us. I wish some of our friends who use closed-end frames would write and give us their advantages. I think we have heard of their disadvantages.

J. H. HILL.

Venice, Fla., Sept. 29.

We are very glad to inform you that we have something for just such bee-keepers as yourself, and you form a very large class. The following will just about hit you:

A CHEAP WAY OF MAKING THE HOFFMAN FRAME OUT OF FRAMES ALREADY IN USE.

Here is another modification of the Hoffman frame. Tack one piece on each end-bar, on opposite sides of the frame. They don't cost much, and are easily taken off when you get tired of spacers.

J. F. MCINTYRE.

Fillmore, Cal., Sept. 12.

The idea is not entirely new, as you will find it already mentioned and diagrammed on page 425 of current volume. There is this difference: You would use it wedge-shaped and beveled at the top as well as at the bottom. In my *opinion* it is the best spacer for the hanging frames *already in use*. It is very cheap, and can be easily discarded if not justified by tests. It should be understood that this is not a real Hoffman, because the top-bar is not widened out at the ends. This latter the inventor regards as a very important feature. So if you discard the one above illustrated, it does not necessarily signify that you would the Hoffman, for a similar reason.

E. R.

HONEY CANDYING.

POLLEN ON THE BEES' BACKS.

In your foot-notes to friend Cleveland's article, page 714, you say that certain kinds of nectar will candy very soon after being gathered. My experience, running through several years, is that *any* kind of nectar will granulate under certain conditions. Friend C. says that lots of his made sugar before being capped over. My honey did the same thing, but not till we had cool wet weather. In 1885 it was wet and cool pretty much all summer, and the honey would granulate as fast as the bees gathered it. This is my reason for saying that all kinds of honey will granulate. If the weather is warm and dry while being gathered, and remains so till it is thoroughly ripened and sealed, in my opinion it will rarely ever candy. I do not remember having ever seen any sourwood honey granulated. I wonder if it is not owing to the acid nature of the tree. The aster honey will granulate as soon as extracted, owing, I suppose, to the cool fall weather in which it is gathered.

As to pollen on the backs of the bees, it is peculiar here only to the cotton-bloom. We know when cotton honey is coming in, by the yellow dusty appearance of the bees' backs. I think this is appropriated by the hive bees, as it is gone from the bees' backs when they come out

for another trip. This accumulation on the back is accidental, of course, as it is not the proper place to carry pollen. Bees are wise creatures, and take advantage of circumstances to advance their ends.

A. L. BEACH.
Pineville, N. C., Oct. 11.

Friend B., your suggestion is something I have not thought of before. You may be right; and since you have turned our attention to it, our readers can doubtless give us facts enough to decide the matter pretty soon. If it be true, the present season should be a very bad one for liquid honey. We still have customers who insist on returning honey as soon as it candies, and no amount of explanation helps the matter. Such people will have to have a grade of honey like the California sage, that does not candy.

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

QUESTION 171. *Is a queen at her best in her first or second year?*

Yes, both.

Ohio. N. W.

A. B. MASON.

In her first full season of egg-laying.

Illinois. N. C.

J. A. GREEN.

Her first full season averages the best with us.

New York. C.

P. H. ELWOOD.

In her second year, to the best of my judgment.

Ohio. S. W.

C. F. MUTH.

If hatched in July or August, her next season is her best.

Vermont. N. W.

A. E. MANUM.

I should say they average equally well both years.

California. S.

R. WILKIN.

I should think the first season after her first winter.

Wisconsin. S. W.

E. FRANCE.

I doubt whether there is any difference, but I may be mistaken.

Illinois. N.

C. C. MILLER.

First, always. They may, and usually do, last two years.

Michigan. C.

A. J. COOK.

Generally, good queens are as good the second and third year as the first.

Illinois. N. W.

DADANT & SON.

I consider the first year of the queen's life the most valuable, all things considered.

Ohio. N. W.

H. R. BOARDMAN.

I rather incline to the opinion that a very early queen is at her best the first season; but I do not feel much confidence about the matter.

Ohio. N. W.

E. E. HASTY.

That depends. I have had queens that were at their best when two months old, and others when three years old. It is needless for me to say that the latter were the most profitable queens to have.

New York. C.

G. M. DOOLITTLE.

I do not know. She is just as good as she can be both years, if her surroundings are favorable; and I have had them do a business the third and even the fourth year, of which I was proud.

Michigan. S. W.

JAMES HEDDON.

I have not conducted experiments carefully and painstaking enough to answer this query as it should be; but I think that, if given my choice when buying bees, I should take colonies with queens one year old in preference to those that were older.

Wisconsin. S. W.

S. I. FREEBORN.

In her second year. A man with good constitution may live to fourscore or upward, and he is in his prime from 40 to 50. A good horse, well taken care of, may live to be 30, and be in its prime from 12 to 15. The history of race-horses proves this. A good queen may live four years. She is in her prime in the second year.

Illinois. N. W. C.

MRS. L. HARRISON.

I should say, in the second year. I have also had queens do wonderful things in the third year. I think this point as to the value of a queen is not fully settled. Many queens will do equally well for three seasons; others will be superseded in one, and both bred under the most favorable circumstances.

New York. E.

RAMBLER.

Well, friends, I am not very much surprised at the diverse answers. I have at different times decided in favor of the first year, and then, again, in favor of the second. For some purposes a young queen may be preferable; and perhaps the great popularity of the untested queens has come from the fact that, if they are honestly reared, they are always young; therefore the purchaser has a right to expect at least two years of service. Quite a few of our customers have expressed a preference for the untested, even if offered at the same price as the tested, because the latter is usually an older queen than the untested. My impression is, that most queens begin to fail during the second summer. At the same time, it is true that we have queens occasionally that seem to be worth just as much during the third summer.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

CHICKENS AND BEES MUTUAL ENEMIES: HOW HENS TELL DRONES FROM WORKERS.

Friend Root:—In GLEANINGS for Oct. 1, page 707, you say that you have never known bees to sting chickens. I had seven colonies become queenless. Six of these were inside the chicken-yard, and only one outside. I lay the cause of losing so many queens, to the chickens. My wife blames the bees for the loss of so many of her little chicks. The bees not only stung the little chaps, but they also tried hard to sting the old ones. They did not succeed very well, as too many feathers were in the way. The hens do not appreciate the attack very much, I judge, from the way they fly around to get rid of them. They finally locate the bee on them, pick it off quickly, and in most cases the result is a dead bee, and they then proceed to eat it; but before they do that they pick it pretty thoroughly. Now, these hens are very cute in

the drone season. They have learned to distinguish between drones and workers. They will take their stand close to and at one side of the entrance of the hive; and when the drone emerges from the hive, and takes wing, the chickens take him in while he is on the wing, and that is the last of him; and when the workers get a little too thick around them they retreat to the back part of the hive, and further if pursued by the bees. In a very short time they are back again, take in another drone, and get back out of the way. All these performances I have seen. I have thought it is a good thing to keep chickens in the bee-yard to pick up all kinds of bugs, and to keep grass and weeds down, which they effectually do. Nothing green grows there except trees and grapevines; but if these chickens are guilty of killing and eating queens when going out or coming in from their wedding-tour, we shall have to separate them. A. W. AUSENBAUM.

Grant Park, Ill., Oct. 8.

Well, friend A., having chickens taught to pick out the drones is a good idea. Why are they not cheaper than drone-traps?

SOFT WATER VERSUS HARD WATER FOR BEES.

I see by your answer, p. 713. I was not explicit enough about the bees and the well. The water is soft—the only well of soft water in the town. I have a well of hard water right near the bees, and have kept water in a trough all the time. The neighbors emptied their trough, and the bees went into the pump and were pumped up by the handful. During the dry season they went there by the thousands. They stung the stock and the people going to the well. The owner thinks I ought to move my bees. I never tried fixing a place with pebbles and moss. I will try it. JOHN BURR.

Braceville, Ill., Oct. 5.

Well, friend B., you have given us a new idea—that bees prefer soft water to hard; but even if they do, I think it is a compliment to their good sense and taste. But you have struck on something else that interests me: Why should this one well be soft and all the rest hard? Is it not because it was drilled deeper? If so, perhaps some of the rest of you had better go down to this same soft-water-bearing stratum.

SUCCESSFUL BEE-HUNTING; 5 BEE-TREES AND 100 LBS. OF HONEY.

One week ago, after dinner I took a notion to cut a bee-tree, without veil or smoker. A neighbor, Mr. Richardson, said he would smoke them while I did the chopping and took honey. I cut the tree, and was opening the same, and bees were fighting like mad, when, who should come but the mail-man with the veil and smoker I had ordered. As the tree was on the road, I filled the smoker and put on the veil with much pleasure. I expected to get very little honey, but we took 38 lbs. of as nice honey as usually comes out of a frame hive. The Monday following I cut another and got 20 lbs. of fair honey. I have now got 5 colonies, all in good frame hives made by myself. First swarm are hybrids, some of them are beauties. The queen is a beauty. She must have come from Mr. Adam Bradford's, a patron of yours, some 12 to 14 miles from here, as he is the only one having any station in this section. Blacks are the rule here. Some 30 days ago a man seven or eight miles from me had found 39 bee-trees; another, 15; Mr. Winslow, 4; Mr. Kennedy and Roberts, one or two; myself, 5. The woods are full of them. Out of the five trees I think we took over

100 lbs. of honey. I am much pleased with the tools and GLEANINGS, as I am a Buckeye myself. M. R. SCUDDER.

Grandview Ranch, Tex., Oct. 4, 1890.

Why friend S., you must have a wonderful locality for bees. I am very glad your smoker and veil came to hand so opportunely.

ITALIANS AHEAD FOR WINTERING AND HONEY.

The past winter developed a point of superiority in Italian bees that was not known to me previously in wintering in chaff-protected hives. During the changeable and warm weather they remained clustered quietly, and so consumed less honey, and in the spring were well supplied with honey, while hybrids had to be fed, and many of my neighbors' black bees starved. Our season has not been very good. The Italians are far ahead of the blacks, though, and give 40 lbs. per colony of white honey as against nothing from blacks, and the fall crop yet to extract. Payson, Ill., Sept. 17. D. E. ROBBINS.

Your testimony is like hundreds of others we have received. Where we receive one report where the blacks did better, we receive ten others for the Italian superiority.

THE SUFFERING IN IRELAND.

Dear Sir:—You state in GLEANINGS, that you gave twenty-five hundred dollars to help a railroad. What will you give, and what effort will you use to induce others to give from that which God has permitted them to retain for their own comfort, to keep the people of Ireland from suffering the misery of starvation? I trust we shall hear from you in this matter. Oct. 13. A SUBSCRIBER.

My good friend, there are a few things in the above that I wish to take exceptions to. The first is, you do not sign your name. You may not have so intended, but there *seems* to be a disposition to find fault, and perhaps to question a little my Christianity. But why in the world do you not stand up and speak out like a man, and let folks know who you are? Sending a communication to an editor or anybody else (without giving at least the *editor* your name) seems to me like throwing a stone and then dodging behind a tree instead of letting your opponent see who it is that takes exception to your course of action. Many people, however, send anonymous letters, without thinking; but no true man or woman ever ought, under any circumstances, to be guilty of such an act. I wish it might be done away with. Again, you say that I gave *twenty-five hundred dollars* to help the railroad. In one sense this is true; but as you put it, I think it conveys a wrong impression. Until the present day we have been at the mercy of a single railroad line. This line moves freight only twice a day; and where goods are urgently needed, if they fail to go by the morning train they must lie in the depot, even if the consignee is suffering, *a whole day*. Another thing, we have never had an *east and west* railroad. All our goods have been going either north or south, until they could find some east and west line. Now, the money I have agreed to pay is not only to help the railroad, but still more to help *you* and all

the other friends who favor us with their orders. I subscribed the amount mentioned, because I felt it was a just debt I owed to those who gave me their patronage.

Now, then, for our neighbors across the water. As the writer of the above has not told us how to give, I shall have to ask some reader of GLEANINGS to give us the address of an organized society or company who will take our money and send it quickly and safely to those who are suffering. I am sure the GLEANINGS family will do their part. If there is a subscription being raised in your community, hand over yours, and do not wait for GLEANINGS. I asked a friend how it was that Queen Victoria did not bestir herself to supply the suffering of her subjects. We all know that the British Isles are abundantly able, if any nation on the earth is. The reply was, that the wealthy landholders were, on the contrary, turning the poorer classes *out of doors* because they could not pay their rent. I really hope that somebody may be able to tell us that this is not so. As GLEANINGS goes to both England and Ireland, some of the good friends there can, without question, enlighten us. Will the editors of our English bee-journals tell us about it, and tell us where to take hold and help? With the means of communication, and facilities for transportation, there ought not to be any *starving human beings* anywhere on the face of the earth. After dictating the above, our shorthand writer gives the following figures, which may have some bearing on the matter. They were used on large posters here during a temperance campaign. But even if this be true, the women and children ought not to be allowed to suffer.

During the Irish famine of 1878, \$6,000,000 was sent to her relief from other nations; but during this same year the whisky-bill of Ireland was \$42,000,000.

Add to this amount the sum paid for tobacco, which is almost universally used by the Irish, and it is not much wonder that some people feel like saying to her as Hercules said to the man whose wagon was stuck in the mud: "Put your own shoulder to the wheel first, and then I shall know better how to help you myself."

SLATTED HONEY-BOARD A NUISANCE; THE QUEEN-EXCLUDING BOARD A SUCCESS.

The honey season was better here. I got almost 500 lbs. extracted honey from my eleven best hives. Your slatted honey-board is a nuisance for extracted honey down here. Brood gets scattered all over the hive. The queen-excluding zinc honey-board, however, works like a charm. It keeps the queen down, and then the bees make the combs much thicker, so that I have only 8 frames in the upper story of regular Simplicity bodies. This saves bees the trouble of capping, and me that of uncapping two frames to the hive.

TO PREVENT BRACE-COMBS.

I tacked inch-wide strips of tin on both sides of top-bar, level with the same on top. This proved an entire success—not one bit of brace-

comb. I also tried the double top-bar with the same result, only the latter is more troublesome to make.

BEE-ESCAPES; THE REGULAR CONE THE BEST.

I tried both the horizontal and the regular cone bee-escape; but instead of using them in boards I fastened them to a piece of enamel cloth, wide enough to project over the sides of the hive, enamel side down. They worked best when I did not fill the new upper story with empty comb, but put only one or two combs on each side. Wherever I put in the whole set of empty combs it seems the bees formed a cluster above and below the escape instead of moving downward. Of the two bee-escapes, the regular cone worked to better advantage than the horizontal. I never tried to extract before I had left the escape on a night. Whenever there was any brood in the upper story (which was invariably the case until I kicked out your slatted honey-boards), the escape did not work at all. When there was no brood they worked to my satisfaction, only very few bees remaining, which soon found home from the extracting-room.

J. C. RIEGER.

Brenham, Tex., Aug. 18, 1890.

GETTING BEES TO TAKE DOWN THE HONEY; MASON FRUIT-JARS FOR FEEDERS.

Your answer to W. R. Tate, page 716, is different from what my answer would be. I would put on an empty upper story, then another upper story on top of that one, with combs uncapped in it; and if the bees are in need of stores they will carry it down immediately. I know this by practical experience. I have been feeding quite a good deal that way lately; and another way I am feeding extracted honey is, to put the honey into quart cans and leave the tops partly screwed on, and lay it in an empty upper story, on its side, and the honey will run out about as fast as the bees will take it. This is a very easy, cheap, and clean way to feed.

M. F. BACHELDER.

Alamo, Mich., Oct. 6, 1890.

You are doubtless right, friend B. Our remarks applied to the two-story chaff hive which we have been trying in that way. You can't tier the two-story chaff hive to three stories high. The idea of using ordinary Mason fruit-cans for feeders is good, and will save to many of our readers the expense of special feeders.

SOUR SMELL PROCEEDING FROM THE HIVE.

Can you tell me why there is a sour smell from some of my hives, something like the odor of soured honey? The colonies from which it comes seems healthy, and the odor is not apparent when the hive is opened. The apiary is on a side hill, and well drained.

Oronoque, Conn., Oct. 2. F. W. HUMPHRY.

Friend H., the smell you mention probably proceeds from a certain kind of fall flower. The matter has come up several times in past seasons, and, if I remember correctly, a certain kind of aster gives off this aroma when freshly gathered. It will entirely disappear when honey is well ripened, and you need have no apprehension in regard to it.

THE OUTSIDE WINTERING SHELL FOR THE DOVETAILED HIVE.

I wintered two nuclei of about three or three and a half frames each, in 8-frame Dovetailed hives, by making an outside shell all around the hive, with a four-inch space at the sides and

ends, and about 8 on top, filled with dry pine sawdust. In May I bought a colony of about 7 or 8 frames, with queen, and lost a good many in transferring.

E. P. CRANSTON.

Keating, Ore., Sept. 25, 1890.

Friend C., you can succeed, ordinarily, with even three or four frame nuclei, where packed as you suggest. But should you undertake to winter weak colonies in this way on a large scale, you would probably lose a good many where we have a winter of ordinary severity.

FEEDING BACK; ONE WHO HAS PRACTICED IT 12 YEARS.

The season has been one of the best. One man took 200 lbs. of extracted honey from each of two of his best colonies. He runs for extracted honey, then feeds back. He has practiced that for over 12 years. He keeps from 15 to 40 colonies. He is an extensive contractor, or more would be kept. I told him yesterday he was the only one who made feeding back a success.

CHANGING QUEENS DURING THE HONEY-FLOW.

We have only white clover this year. The season was poor from May 25 to July 1. My crop is 850 lbs. from 22 colonies, spring count. I increased to 28. I removed half the queens from May 28 to June 5. I tried to get a young laying queen by June 15, but failed. I missed a cell in some, and in others they started cells on very old comb, so many swarmed out. But they invariably swarmed out in the afternoon of the day before the young queen came. Of course, they returned then. Should we have a rainy day it would break the rule. I never saw that in print, or noticed it in colonies that had swarmed and cast a second. I suppose, as they were kept at home so long, they were so anxious to take a trial flight. Three failed to swarm at all that had queens. I am satisfied with the system and the honey produced. It is regular, and very fine in appearance.

SELLING SECTIONS BY THE PIECE INSTEAD OF BY THE POUND.

Pottstown has nearly 15,000 people, and over fifty grocers. One man sells by weight; the forty-nine sell sections of honey by the piece. The man that sells by weight sold No. 1 honey from Muscatine, Iowa, for 11 cts. per section last spring. He is no profit to the bee-men, because he beats down prices.

About six or eight of my hives had about 45 lbs. in the brood-nest at the end of the harvest, or my crop would have been 1000 lbs. Several I contracted to five combs, then I got it all without a queen in the hive.

W. W. KULP.

Pottstown, Pa., Sept. 4.

Friend K., it is possible that the man you mention makes a success by feeding back, providing he does it only to finish up sections partly filled, providing he also gets a large price for comb honey and a comparatively small one for extracted. At the present time there is quite a wide difference in the market, nice comb honey bringing very nearly if not quite double the price of the liquid. If only one man out of fifty in Pittston sells honey by weight, I do not know but that I shall have to give up; but it is something that I had hardly ever heard of when the matter was first mentioned. I am sure there are very few places in our State where sections are sold by the piece. Now, if this is going to be the rule, we as bee-keepers ought to do all we can to have our sections uni-

form in weight. I know that, in many places, there is a growing disposition to get rid of pennies, and I do not know but that this is the right thing to do. A few days ago I told our wagon man to reduce the price of the small sugar pumpkins to half a cent a pound. He said, after a while, however, that it was too small business, and that people were just as well satisfied if we told them that the pumpkins were 5 cts. for the small ones and 10 cts. for the large ones. I have many times thought that the time is coming when we can not afford to waste time over pennies. The five and ten cent counters, you know, have been a move in the right direction. Quite a few berry-growers have written me that they are obliged to sell berries for either 10 cts. a quart or 15—that people would not have any half way about it. In fact, we are coming to this a great deal ourselves. We use pint boxes altogether for berries, and sell them at either 5 cts. a box or two boxes for 15 cts. For very choice berries we sometimes get 10 cts. a pint. Now, in view of this, our honey should be put up in such quantities as to be sold at 10, 15, or 20 cts. a package. Perhaps the very thin ones or flat ones had better be sorted out. If a customer wants two sections, he might be given a thick and a thin one, so as to make it fair.

MORE ABOUT WATERING-PLACES FOR BEES.

In answer to the inquiry of John Burr, page 713, I will say that, three years ago, when there was no prospect of a honey crop, I rented a large farm, and went to raising other crops. On the farm was a large artificial pond; and whenever the bees had occasion to carry water they went to the pond for it, the soft mud being at times almost covered with the striped Italians. They bothered nowhere else. This summer they were so thick around my watering-trough that on some days the animals could not be induced to approach the trough until the bees had retired in the evening. We also had a small out-apiary near a road that is much used. At the road was a well and trough. The bees troubled the neighbors very much, and attacked a team that had stopped for water. The team ran away, and the occupant (a woman) was considerably hurt. Now, I have determined to construct a pond on my premises, for the bees to get water. The warm stagnant water seems to be just what they want.

CATFISH.

When on the farm, as already mentioned, I put some catfish spawn into the pond this season, and the occupants of the farm have been catching some of those "cats" a foot in length, and delicious as only catfish are. You see, I shall make my pond answer a double purpose. The pond will draw the bees from the well, and raise fish for the family, and the presence of the fish in the pond will prevent the water from becoming stagnant to a degree of unhealthfulness. Besides, I can arrange it so as to be a very convenient watering-place for my stock without allowing the stock to go into the pond.

Centerville, Ia., Oct. 4.

G. B. REPLOGLE.

Friend R., within a little distance from our apiary is a pebbly brook, and in the summer time the water stands only in holes and hollows of the rocks a great part of the time. This creek is out of everybody's way, and it is often

so full of bees that the horses are afraid to cross the brook when cultivating. Perhaps others may make use of such brooks. Your remarks about catfish suggest something that I have not thought about before; namely, that carp-ponds are really a part of a bee-keeper's outfit. Our bees seldom go to the carp-pond, however, because the brook below it is so much handier.

KEENEY'S METHOD OF WIRING; USING TACKS INSTEAD OF WIRE NAILS.

I have been using the Hatch plan of wiring frames, as given on page 561, and I have found something I like better than either staples or wire nails to fasten the wire on. It is 14-oz. Swede-iron tacks. Drive the tack about $\frac{3}{8}$ of its depth in the $\frac{3}{8}$ -inch end-bar, placing them in the same position that Mr. Hatch does the staples or wire nails. Take spool wire (not coil), and run the wire the same as he does, leaving all wires loose except those running from 2 to 3 and 4 to 1; draw those tight. After the wire is on, stand four frames on end, and drive the tacks home, or until the wires are drawn as tight as you like them. I find the wire will break every time before the tack will pull out. The advantage over staples is, one can work much faster, and no waste of wire; and over the wire nails you can draw your wires just where you want them. The wire should be wrapped two or three times around the tack, to make it hold well. If the above is of any use, give it to the bee-keepers.

Delavan, Wis., Aug. 11. F. E. BURROWS.

You can use tacks, but you are obliged to sacrifice the two side perpendicular wires, which we regard as so necessary. On this account we should much prefer the hooked wire nails.

CANDIED HONEY FOR WINTERING.

Will the bees winter safely on candied honey? If not, what can I do, not having any extra brood-combs?

FRANK W. LIGHTON.

Williamsport, Pa., Sept. 14.

As a rule, bees will winter all right on candied honey; but sometimes, when it is candied very hard, as honey from special plants does at times, it seems some seasons the bees do not seem to get along so well with it. When the weather becomes very warm, however, say late in the spring, they will bring water and work it up. When there happens to be a dearth of bee-pasturage between fruit-blossoms and white clover, so that the bees need feeding, candy can be used to good advantage.

A GOOD REPORT FROM MRS. AXTELL.

Our bees are again nicely at work filling their hives with honey. We have strong hopes they will fill up for winter without having to feed. Our home apiary here on the prairie is getting more honey than the timber apiary, four miles away, although there is much more waste land in the vicinity of the timber apiary; but our bees at home always average more honey per colony, except early in the spring, when they get more from the trees. If we do not have to feed the honey taken from them in the spring, there will be fair returns for the men's labor upon them, and the pleasure I have had with them will repay me for my work. The bees come in heavy laden now. They look so big and heavy and yellow and soft and clumsy, like baby bees, that it is easy to handle them now.

What a delightful business this bee-keeping would be if they were storing honey the whole year round! Everybody then would be bee-keepers, and honey would be so cheap we could hardly give it away.

MRS. L. C. AXTELL.

Roseville, Ill., Sept. 5.

WHAT I DO WITH PROPOLIS.

When my husband went into the bee-business, propolis used to be a source of trouble to me. If thrown on the ground, it stuck to the children's bare feet, and to every thing that came in contact with it. I now save it and use it to seal jars of fruit with. I have gooseberries, currants, and other fruit, put in jars. Any ordinary cover will do. Seal it well around with propolis, and it will keep well.

MRS. BURR.

Braceville, Ill., July 25, 1890.

Well done, my good friend. I have insisted for long years that propolis must be good for *something*, and now you have hit it exactly. We all know that it will stick to tin, glass, or any thing else; but does it never get soft in very hot weather?

MILLER'S PLAN OF AN APIARY; FURTHER SUGGESTIONS.

Allow me to say, in reply to Ernest's comments on my article, page 524, July 15, that, after I had written the article, I concluded the distances I had allowed were too little, but thought I would not re-write it, as every one would be likely to make the distances to suit himself, if any should try the plan. I would allow ample space, yet not more than necessary, as this makes more work for the lawn-mower. I prefer to use a scythe to keep down the grass outside and around the apiary, as it does not need to be cut as often as that among the hives; and one accustomed to using a scythe can, with a good keen one, do a respectable job on a lawn.

QUEENS, LAYING OF.

Some time ago, in passing through the apiary I concluded to look at some young queens that had hatched in colonies that had cast swarms. The queens were some two or three weeks old. I opened a hive and found two, three, and sometimes four eggs in a cell. I was somewhat suspicious, and concluded to see what kind of a queen there was in the hive, if any. In a short time my eyes caught sight of her, one of the most beautiful queens I ever saw. I went to a second and third hive, and in all of them I found the same state of affairs. The colonies were strong, and from one of them, a one-story ten-frame hive, I had extracted 26 lbs. of honey a short time before. Those queens are all good, and I write this as a warning to beginners not to be too hasty in deciding that they have fertile workers or poor queens.

S. E. MILLER.

Bluffton, Mo., Aug. 9.

DIED FROM A BEE-STING.

We inclose a clipping from the Syracuse Evening Herald, of Aug. 28. The doctor that lives next door to us says Mr. B. died from the shock. He says some people have died from the shock caused by having a tooth extracted.

Syracuse, N. Y., Aug. 28. F. A. SALISBURY.

La Fayette, Aug. 28.—The death of Alexander S. Baker yesterday occurred under very peculiar circumstances. He died from the effects of a small honey-bee sting, and within ten minutes after being stung. August 8th Mr. Baker was stung on the back of his neck and became unconscious, remaining in that condition for an hour or more. On Wednesday he was stung on the end of his nose, and the effect was similar to his first experience, and proved fatal.

Some years ago Mr. Baker kept an apiary and

nearly lost his life then by being stung. This was thirty-two years ago. He was very ill at that time, and since then his pulse has been as low as forty-five almost habitually. Five years ago he was stung with nearly the same effect.

On Wednesday Mr. Baker was in the garden at his farm picking beans when he was stung. He went into the house as hurriedly as possible, and told one of the members of the family what had happened, with the remark that he was sick at his stomach. Those were his last words. He died immediately. Dr. Morris, who was called, says in describing the case that Mr. Baker died from "constitutional susceptibility."

REPORTS ENCOURAGING.

FROM 18 TO 20 LBS. PER HIVE.

I am now taking off my honey. I am getting from 18 to 20 lbs. per hive—about a third of a crop. I have 19 colonies. F. BURR.
Braidwood, Ill., Sept. 20.

A NICE LOT OF HONEY.

There has been an abundance of white clover; also the flow of basswood was good, so that we have a nice lot of honey. Our bees have not worked on buckwheat. JOHN HERRICK.
Gerry, N. Y., Sept. 23.

BEEES DOING SPLENDIDLY.

Bees here are doing well on buckwheat and heartsease. We had a fine crop of basswood, and indications are favorable for a good fall honey-flow. THEO. WALKER.
Denison, Ia., Aug. 30.

HONEY CROP EXCELLENT.

The honey crop is good in quality and fair in quantity. From 80 colonies I have taken 5000 lbs. of comb honey. This is the largest yield since I commenced bee-keeping. Eddyville, N. Y., Sept. 22. C. H. AVARS.

HONEY CROP ABOUT AN AVERAGE.

Our honey crop will be about an average one. We shall get about 60 lbs. of surplus per hive. Very few bees swarmed, and are therefore very strong. J. L. GANDY.
Humboldt, Neb., Sept. 8.

14 TONS OF HONEY.

We have been in the business for 14 years. The bee-business goes well with our family. We extracted this year 14 tons of choice sage honey. California wild sage makes the best of honey. I have just returned from a trip through Colorado, hunting a market for honey and horses. Our home market for honey is very good, so we will sell at home. Our bees are mostly blacks. CHAS. LASALLE.
Lompoc, Cal., Sept. 12.

40 LBS. PER COLONY.

I noticed in the last GLEANINGS, Sept. 15th, that reports from this State are rather discouraging, so I send you my experience to partly balance it. Last spring I had three good colonies of Italians in the Root chaff hive. I now have seven colonies, and have taken 40 lbs. per colony of comb honey, mostly heartsease. Choice 1-lb. sections sell for 20 cts. per section. Bees are in splendid condition for winter. J. E. LEYDA.
Weeping Water, Neb., Sept. 26, 1890.

UPWARD OF 200 LBS. PER COLONY.

This is a comparatively new country, therefore our bee-industry is young, light, and limited; but few of us own 50 colonies of bees, most

of which have done well with proper care. My bees have averaged upward of 200 lbs. of honey to the colony, and but slight increase of bees. My best record is 330 lbs. of strained honey, no increase. I shall try to beat that record next year. Bees are all in good condition for wintering. Average price of honey is 10 cts. per lb. Elsinore, Utah, Oct. 6. N. B. BALDWIN.

Well, friend B., that is pretty good for this season of poor reports. We should have been glad to know of the source of such a great crop of honey. I wonder if it is not the sweet clover that I wrote up after my visit to Utah.

ENCOURAGING FOR ASTERS.

Please identify the inclosed plants, white and purple. The bees are very busy on it, my scale hive showing $3\frac{1}{2}$ and 2 lbs. per day when the weather is favorable, and working only from 10 to 4. J. B. ENOS.
Connellsville, Pa., Oct. 8.

Well, friend E., that is a pretty good report— $3\frac{1}{2}$ lbs. a day as late as Oct. 8. We have been in the habit of taking it for granted that little if any honey is gathered as late as October, in our locality; but the fact you furnish encourages bee-keepers to be slow in deciding that all hope of a honey crop is at an end then.

STRAWBERRIES AND BEES.

I raised this year 944 qts. of strawberries on $\frac{1}{2}$ of an acre. Last year at this time, from seven colonies I got 950 lbs. of white-clover honey in 1-lb. sections; this year from 21, 320 lbs. W. E. THOMPSON.

Laddonia, Mo., Aug. 23.

Why, friend T., you are an old "wheel-horse," to be sure, if you continue to make such good yields as you mention in the above, both in honey and in strawberries. Why didn't you squeeze out a few more quarts and make it a thousand from an eighth of an acre?

A GOOD REPORT.

I had an increase of 91. I extracted 22,130 lbs., and obtained, in 1-lb. sections, 1600 lbs. The bees are in good condition now. Tropico, Cal., Sept. 19. J. J. COLE.

Well done, old friend; but you did not tell us how many colonies you had to commence with. I am exceedingly glad to know that you have really got a good thing in your California investment. I will explain to our readers, that friend Cole purchased an apiary at the foot of the mountains. I went over there to look at it, just about the time of the purchase. The ranch was supplied with water which came down from the mountains in—what do you suppose? Why, in cane fish-poles that grow plentifully in the neighborhood. The only drawback was, that the cayotes, or the prairie wolves, had discovered that they could get water by chewing up the fish-poles. As this saved them traveling half a mile or more, it became a favorite pastime. But, oh my! was it not vexatious to the proprietor? As the fall was considerable, when the canes were broken the water would frequently spout up in the air to a great height.

42,000 LBS. OF HONEY.

Our season is over. We have about half a crop; I got 28,000 lbs. of extracted honey; 14,000 lbs. of comb honey, and about 400 lbs. of beeswax. I have a 7-frame automatic extractor, and I have a double honey-tank holding seven tons and a half at one time; and a large solar extractor. C. P. LANE.

Warthan, Cal., July 25.

NOTES AND QUERIES.

TWO BAD SEASONS.

The past two seasons have been very hard for bees in this vicinity. Mine have not made a pound of box honey this season. It has been the poorest but one for 25 years.

H. S. WEBBER.

Monroe Center, Me., Sept. 15.

BEES WORKING ON PARSNIP.

I saw in GLEANINGS of Oct. 1, page 713, about bees working on parsnip. I raised parsnip-seed in my garden, and the bees worked on it every pleasant day while in bloom. I think it a good honey-plant. We can find out another year.

MRS. M. E. TANNER.

North Woodbury, Ct., Oct. 20.

900 LBS. FROM 21 STOCKS.

My honey crop for this poor season foots up over 900 lbs. in 1-lb. sections from 21 hives. Too late. Last-year swarms in gums are doing nothing above their living. As a general thing, among the old class of bee-keepers the honey crop has been a failure in these parts.

Pine Grove, O., Sept. 27.

S. DANIELS.

AN INCREASE OF 10 COLONIES FROM A 3-FRAME NUCLEUS.

I received from you last September one three-frame nucleus, which wintered in good shape and increased this year to ten colonies, which are strong enough to winter all right; and extracted 155 lbs. of alfalfa honey.

Keating, Ore., Oct. 5.

A. S. LOVE.

[You did well.]

CHANGING QUEENS.

This will not stop the nameless disease. I had five queens last year from St. Louis, and introduced them to my bees. They are affected by the disease, and they are worse now than before.

FRED A. HUND.

Casco, Mich., Oct. 6.

[Friend H., we hardly think the above is conclusive, for the queens you received may have been from colonies afflicted in a like manner. I think giving the stocks new queens from an apiary that never had the disease will put an end to it—at least, we have never known it to fail.]

ITALIANS ON GRAPES.

I find the Italian bees I bought this year surpass hybrids in one thing—they are always on hand where there is *any chance*. If a bee gets drowned in sorghum it is an Italian; while the grapes on our house-arbor, after the rains cracked them, were like a swarm, and all Italians. This was the first time I ever saw any havoc by bees to grapes.

W. N. ROOF.

Assumption, Ill., Oct. 6.

[I know this is true of the Italians, many times. Very often the Italians will be at work on red clover while the blacks are working on rotten fruit, and hanging around cider-mills.]

A STONE BUILDING FOR BEES.

How would you prepare the following building for wintering bees? I have a stone building 12 feet long, 10 wide, 8 high, with a common shingle roof, in which I wish to hive 35 colonies of bees, all in 8 and 10 frame Langstroth hives.

Mt. Horeb, Wis., Oct. 9.

E. C. ELVER.

[If your building is frost-proof, pile them up in rows without bottom-boards, *a la* Boardman, or as is explained in our latest A B C of Bee Culture. Stone buildings have not been found very successful—at least, so far as my experience goes. They are apt to be damp and cold, and they do not dry out as well as the sawdust-packed repositories.]

APPLE-TREES FOR SHADE.

I should like to be informed how much shade a swarm of bees will do the best under, through the summer season. Is the shade of large apple-trees too dense? I have some swarms standing directly under quite large apple-trees, where the sun shines on the fronts of the hives less than half the time.

A. P. FLETCHER.

Proctorsville, Vt., Aug. 31.

[Apple-trees, if not too large, and the foliage not too dense, form excellent shade for hives. A young orchard makes, therefore, a very nice place. For further particulars, see the A B C of Bee Culture.]

GETTING YOUNG PLANTS FROM STRAWBERRIES SET IN AUGUST.

The 24 Gandy strawberry-plants sent me Aug. 5th have sent out fifty runners, and the Haverland has sent out quite a number, all doing splendidly. I lost but one plant out of 96, and something cut the root of it. If the weather continues nice for three or four weeks, I shall get 100 sets from them.

P. M. BYERLY.

Farley, Ia., Sept. 10.

[Friend B., in our locality I think we could safely get double the number, with a favorable fall like the present one.]

WHEN TO MOVE A WHOLE APIARY 100 YARDS.

My bee-yard is within six feet of my dwelling, and within twenty feet of the public highway, with no obstruction intervening, save small fruit-trees, peach, quince, and pear. When I established it there I took no thought of increase. It now numbers over 20 stands. Should I live and retain my present and ever increasing interest I must remove them to a spot more remote from public travel. I desire to place them about 100 yards from their present location. Will you tell how to do it, and when?

Guys, Md., Sept. 29.

WM. S. ADAMS.

[Move this winter, after the bees have been confined for awhile.]

HOW TO MAKE GREEN-TOMATO PIE.

I wonder if the readers of GLEANINGS know that green tomatoes are excellent for pies. If you have never tried them, ask Mrs. R. to make one. Here is a recipe:

Prepare the tomatoes as you would apples. Take $\frac{3}{4}$ cup of sugar; 2 heaping teaspoons flour; stir sugar and flour together, and spread on the bottom crust; then add tomatoes and two tablespoons vinegar, and a little butter. Put on upper crust, and bake. Cut the pie into as many pieces as you wish. I think four is small enough.

S. H. HOUGH.

Saybrook, O., Sept. 16.

THE BOOK AND THE STRAWBERRIES.

The book on strawberries is at hand. Thanks. The strawberry-plants are all growing nicely, and it certainly is a delight to see

them grow. Haverlands and Gandies commenced throwing out runners right away, and starting new plants. I want to ask you one question: Will the mother-plant do to set out in the spring with the young plants, and cultivate according to instructions (that is, will she throw out runners) next summer?

Tatesville, Pa., Sept. 18. G. H. KNISLEY.

[Yes, but it is not considered as good.]

THE STING OF THE RED ANT OF TEXAS WORSE THAN THOSE OF A DOZEN BEES.

I notice in GLEANINGS, of Sept. 15, that Mr. Geo. E. Hailes, of Lytle, Tex., gives an account of red ants attacking his bees. Now, remember that was just after a rain, and in July, so the ants were swarming. They always swarm just after a rain. Red ants that live in the ground never bother bees. I have four or five ant-beds in my bee-yard. You seem surprised to hear that an ant-sting is worse than a bee-sting. That is because you are not acquainted with them. They are not nearly so large as a bee, but are all "pizen." I would rather be stung by a dozen bees at one time than one red ant. They are nearly as bad at hurting as a scorpion. If you have a remedy for exterminating red ants, please turn it loose in Texas. W. F. ELLIOTT.

Clio, Tex., Oct. 4, 1890.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

OUR BEAUTIFUL FALL WEATHER.

At present writing, Oct. 25, we have not yet had a frost to injure lima beans and tomatoes—that is, up around the windmill they are uninjured. A frost injured some things a little on the lower grounds a few nights ago. There is something queer about the weather this fall. A great many times it has cleared off cold, and we have had every indication of a severe freeze; but before morning the temperature would let up, and the frost that started so fiercely the night before did not amount to much after all. We had the same state of affairs a year ago. Yesterday we had green peas for breakfast, both Stratagem and American Wonder, and I never ate sweeter or nicer peas in my life. For dinner we had Livingston's Gold Coin sweet corn. It is as yellow as old gold, and almost as sweet as any sweet corn, having at the same time a slight field-corn flavor. There has been quite a little discussion about the propriety of putting it in our forthcoming catalogue. The only difficulty is, that it increases the number of varieties of corn further than we want it. Tomatoes are still ripening slowly.

This year, whenever I put in a crop so late that I thought it might *possibly* have a chance to mature, we hit it just right; and so many things often hold out longer than we expect. I rather like the idea of sowing late crops, even if there are a good many chances for them to be a failure. We are still picking wax beans, and have a fine crop of Eclipse beets, about as large as lens' eggs. Cabbages are so plentiful we are offering them at half a cent a pound. Not so with cauliflower, however. There happens to be a scarcity, so we are getting 15 cents

per lb. for the handsomest Snowball cauliflower we ever raised. All insect enemies have vanished, and every thing in the cabbage and turnip tribe is growing with great luxuriance, unharmed by any insect foe. This is another advantage with late stuff. We have single stalks of White Plume celery weighing 3 lbs., and we are still getting 10 cts. per lb. for first class. Just think of it! 30 cts. for a single root of celery! The New Rose is growing finely, but it has not matured enough to use yet. We are now selling heads of Grand Rapids lettuce, weighing two or three pounds, at the low price of 5 cts. per lb. Beautiful parsnips bring 3 cts. per lb. Chinese Rose winter radish now "takes the cake" over every thing else. They are almost as mild as a very sweet turnip; and when first washed and put on the wagon, the delicate rose color makes them more attractive than any thing else in the radish line. They bring 10 cents per dozen radishes. Spinach is large enough to gather, but we have enough other stuff so that we do not need it. Our Hubbard squashes are all gathered, and stored in slatted potato-boxes, out of the way of the frost. We have beautiful Ignotum tomatoes on the table every day, gathered right from the field. Served with sugar and cream, I believe I like them fully as well as yellow peaches; and when peaches are so high that you have to pay 30 cents per lb. for evaporated ones, with the skins on, I tell you it is quite an item to have plenty of tomatoes out in the field. Every thing up on the hill by the windmill is so far uninjured by the frost; so you see that it pays a market-gardener to have a hill for late supplies, as well as to have a rich creek-bottom garden. We have the handsomest turnips that I ever saw or heard of. The Purple-top White Globe is still our favorite.

Now is the time to get ready your green-houses or cold-frames. Lettuce, beets, spinach, cabbage-plants for cold-frames, winter onions for use when the ground is frozen, rhubarb, radishes, etc., should be growing in beds, to be covered with glass later. I am decidedly in favor of movable glass of some shape or sort; and then I would leave the glass off just as long as possible without injury to the plants.

RAISING STRAWBERRIES JUST LIKE CORN.

Friend Root:—I've just finished reading the "A B C of Strawberry Growing," and it has stirred me all up. It's a good book, isn't it? How I wish the busy times of bees and strawberries didn't come together, that I might try my hand at it again, and see how much better I could do with the increased light!

The proportionate prices of land and labor make a good deal of difference as to the wisest plan of raising strawberries. If land is very high, and labor very cheap, then it may be best to use the single-hill plan, and persistently keep down all runners. On the contrary, if land is cheap and labor dear, the very reverse may be best. As this is the condition of things among many of your readers in the far West, it may be well to tell how I raised strawberries by the acre, years ago, on land that cost \$22 per acre, near a village. The ground was prepared exactly as for corn, and you must remember that, in some new countries, we have very rich land for corn. The land was marked as for corn, marking both ways, one plant set at each cross-mark, and then the ground was cultivated both ways, and the runners allowed to run and set at their own sweet will. As the runners naturally incline to spread in all directions, nothing better could be done than to let them alone. In addition to the cultivating, a little hoeing kept down the weeds, and in some places this might not be necessary on new ground.

Now, I don't say this is the best plan; but don't you think that many a farmer out West who thinks he can't fuss to raise strawberries might be induced to do so if he were told how little trouble would supply his table? Just tell him to set one corner of a corn-field to strawberry-plants, and cultivate them with the corn, the only difference being in setting the plants. Likely he may raise a question about mulching. Well, if that's going to scare him out of it, tell him I raised a paying crop without using any mulch whatever, and you know it's a good bit colder here than at Medina.

TRIMMING.

It may be presumptuous for one so much behind the times as I am, in matters horticultural, to suggest any addition to what has been said by two such experts as you and friend Terry. Nevertheless I know you'll let me "speak in meeting," and will good-naturedly set me right if I'm away off.

I see nothing said in the book, if I am not mistaken, about trimming, except to cut off the dead leaves, and perhaps cutting off the ends of the roots. Now, I don't know of any harm that these dead leaves do except to be in the way; but I do know of harm that some of the *living* leaves do, in all plants that ever I have bought. If a plant be taken up by means of one of Root's transplanting-tubes, and set out at once, all roots intact, and the soil adhering, not a leaf should be touched. But if the plants have come from a distance, the chances are that many of the little rootlets are so injured that they will never work again, and the number of leaves must be diminished to correspond with the number of working roots left. So I always felt safest to trim off all leaves except the center one, besides cutting square across the ends of the roots so as to take off perhaps a fourth of the longest ones. These long straggling roots don't get well planted, and a number of good working roots will start from the freshly cut ends.

PUDDLING.

Has "puddling" gone out of fashion? and is there something that I don't understand about it, that makes it better to lift the plants right out of water when set? When plants are taken out of water, you know what a tendency they have to cling together—just exactly what you don't want them to do. Stick them back in the water, and they spread out in a natural position; but the minute they are withdrawn they try to get into a single rope. Thus planted, there will be places where no soil will touch the roots, and holes left between. Now, what is "puddling"? Simply dipping the roots in very thin mud. Take a dish or pail of water, and stir into it all the soil it will bear, so that, when you stick into it the roots of a plant, and shake the plant up and down a little, the roots will spread out in a natural position. Upon lifting out the plant, each root will have a coating of soil, so they can not cling together as when taken out of the water, and will go into the ground in better position and condition. If the "puddle" be too thin, not enough soil will adhere to the roots; and if too thick, the roots will not readily go into it. Have too much soil in the bottom, and add water on top as often as needed. After puddling, the very fine little roots will stand out naturally, as you can not get them to do if you take them out of clear water. Leaving plants too long in clear water may injure them, and a puddled plant will not injure as quickly by drying.

MARKING.

In addition to the plans given for marking the ground, some might find it convenient to use a plan practiced by nurserymen. They

stretch a rope on the ground; then, pressing on it the blade of a hoe in front of them, they slide the hoe along as fast as they can walk, leaving the imprint of the rope in the soft ground. I have seen hoes with holes worn in the middle of the blade through much use of this kind.

You ought to have a big vote of thanks for getting out so practical a book. C. C. MILLER.
Marengo, Ill., Oct. 20.

Well, old friend, I do not know but we owe you a vote of thanks. I have several times felt a longing to try strawberries on just the plan you give, but our ground is too expensive, as you suggest. Cultivating both ways would certainly save a great amount of labor. We have practiced trimming—in fact, we always trim our plants before sending them off by mail; but after many experiments in sending out and receiving the plants, I am sure there are two extremes in the matter, and I would never trim them down to one leaf. We leave three leaves—counting the new one just pushing out. We received 100 plants in August, from New Jersey, trimmed, as you suggest, to one leaf; but while they all lived, the growth has been very much slower than with others where there were two or three leaves left. Matthew Crawford and Mr. Little both expressed themselves against trimming too closely, as they looked at the plants above mentioned. You give me a new idea in favor of puddling; and one reason why I have disliked putting the plants in a pail of water, is because the roots cling together in the way you mention. I shall try puddling again, with the additional light you give us in regard to it. My impression is, however, that the careful grower who really loves his plants will make them grow by almost any of the methods given. Pushing a hoe along the rope is another idea that will be valuable to me. We have always made a mark by walking on the rope; but this takes too much time where one foot is put tight up with the other as we walk.

PLANTING STRAWBERRIES IN THE FALL, IN FLORIDA.

Friend Root:—I consider your "crop" department one of the most interesting in *GLEANINGS*, and I always delight to read it. I have just read in the Sept. 15th number what you and S. P. Yoder have to say under the above head. Here in Florida, all of the hundreds of thousands of quarts of berries that are shipped out of the State every year are grown on plants set, for the most part, in September and October. These plants begin to bear the following January, and continue to bear until June. These plants are not set "by way of experiment," but by the *acre*; and, given the proper season and attention, they pay well.

Alva, Fla., Sept. 27.

H. G. BURNET.

Friend B., circumstances are so different between your locality and ours that there is no particular application except this: You have demonstrated that a plant that grows in the fall may bear a great crop of berries the following spring; but I presume that with you, as a

matter of course, strawberry-plants grow every month in the winter time, and have no rest at all. Well, now, do you plow them under after getting one crop, or do you keep the weeds out through all of the ensuing summer and get a second crop of berries from the same bed? And, by the way, what is to hinder you from getting a crop of berries in the fall, as they do in California? It seems to me that a timely application of water—that is, if you do not have it in abundance from the rains—may enable you to have strawberries for Thanksgiving and Christmas.

REDUCING THE NUMBER OF VEGETABLES, ETC.

Dear Friend:—Perhaps you are not aware of having a subscriber away down in old Tide Water, Va., who is depending so much upon you for valuable information in the horticultural line, and that I read GLEANINGS with great interest, and always await anxiously its arrival. Will you allow me the privilege of expressing my opinion in regard to your condensed seed catalogue? I think it is a capital idea, provided you cover the whole ground and include seeds for us large growers (the growers for the great Boston markets), as well as those who are growing for only a local market. Say, for instance, I am growing melons for the great market of New York. Were I to take your advice, and grow Landreth's Extra Early, why, it would be the means of my losing a good deal of money. I grew watermelons last year as a field crop, and realized about \$100 net profit per acre, and it was due to growing the right variety—Kolb's Gem.

In regard to your cantaloupes, while I have never grown Landreth's Extra Early, I can't agree as to the Emerald Gem and the Banana. My local market greatly prefers Miller's Cream; and while it is not so early, it is much the heaviest cropper; and my advice to my brother-truckers is, to grow the Hackensack or Acme, to ship.

In regard to lettuce for outdoor culture, the way we cultivate it down here, I think the Tennis Ball variety is second to none.

I agree with you about tomatoes. I have ripe tomatoes from the same vines that I began to gather from the 10th of June (Ignotum). The coming season I expect to grow 3 varieties—Ignotum, Burpee's Matchless, and Livingston's Beauty. I have never fairly tested the two latter. I think the only fault the Ignotum has is this: it won't stand dry weather, and will rot at the seed end.

Now, Mr. Root, I am a very good friend of yours, and I advocate your advice everywhere. I have profited more by reading after you than after everybody else together; and I feel as if I knew you, and would like much to meet you. If you ever come to old Virginia, and don't call to see me, I shall not like it at all.

I am a great friend to the son of toil; and if it is possible for me to speak in his behalf I will take pleasure in doing so. E. L. LIPSCOMB.

West Point, Va., Oct. 23.

Many thanks, my good friend, for the valuable suggestions you give us; but instead of helping to reduce the number, you rather give us excellent reasons why we should enlarge it. Well, this is just about as I expected; and as different localities and different markets require special varieties, perhaps it is impossible to keep the number down so small as I had planned, especially for a general seed catalogue.

MYSELF AND MY NEIGHBORS.

COPY OF A PAPER PREPARED FOR READING
AT THE NATIONAL CONVENTION IN
KEOKUK, IOWA.

Have faith in God.—MARK 11: 22.

Perhaps, dear friends, you think my text is a rather strange start-out for a paper on the honey-resources of the United States. May be it is; but I believe it is applicable to the subject in question, after all. For a little time back it has seemed to many of our bee-keeping friends as if our industry were going down hill. We have been in danger of losing faith in bee-keeping; and I fear that some of us have been tempted to lose faith in the great Ruler of all things. How can a man be a successful bee-keeper, without faith in an all-wise overruling power? How can he, in fact, be successful in any thing, in this whole wide world, without faith in God? In working, and devising means, and in planning for the future, what incentive is there to push ahead unless we have this faith? Perhaps some of you will agree with me in a general way; but I wish to exhort you to-day, not only to have reverence and respect for the all-wise Creator, but to have faith that he cares for us and loves us, and keeps watch over us, and hears prayer. During the past few weeks we have had an unusual amount of rainy weather—at least, such has been the case in Ohio and adjoining States. Men have planned, but God seems to have thwarted their plans by so much wetness. Shall we complain of him? Surely not. The words of our text bid us have faith in God. Shall we grumble at his dispensations? By no manner of means. There are certain things we can control, but we can not control the weather—at least, we have not done so yet; therefore we may safely say, just now at least, that the weather is God's part, and all we have to do is to attend to *our* part. Perhaps some of you say that I do not know what it is to have my bread and butter cut off by such unheard-of weather. I know something of it, dear friends. My crop of seed beans, including the bush limas, that are worth quite a lot of money, are still out in the wet. Many are rotted and spoiled hopelessly. My special crop of seed corn, that I value a good deal, has not been dry enough in a month to do any thing with, unless each ear be hung up in a dry place, as it hangs on a stalk. I must lose it, or cure it at a great expense. But I have not looked sour nor felt cross yet, although I sometimes have to say to myself, "Thy will, not mine, be done." It has been very perplexing for me to keep a large force of hands at work, for we do not send our men home when it storms, as many establishments do. Again and again have I asked God in the morning to give me wisdom in devising ways and means to keep my men at work, and at the same time have them work profitably. So far the answer has come, and I have often wondered how it was that things change around, and seem to dovetail one into another, in such a way as to call for just the man that I did not know what to do with next. Then how much happier one feels who has faith in God, and, as a natural sequence, faith in humanity! I fear, dear friends, that I should not have been away off here away from home, when so many things seemed to need me, if it were not for faith in God and faith in you. I believe we shall always be blessed and prospered in doing our duty, and duty seemed to call me here.

Now, about the honey resources of our own country. My faith is brighter to-day than it was a few years ago. I have prayed for our industry a good deal; and we have in our con-

ventions prayed that God might bless our undertakings, and strange and unexpected blessings have come. They do not always come right to our door; but if we have faith in God, we ought to feel just as happy to see them come to our *neighbors'* doors. Some of them have come to neighbors who live a great way off; in fact, some of the greatest blessings have dropped unexpectedly among bee-keepers away off on the Great American Desert. Years ago I talked about a honey-farm, where plants could be blossoming in succession, one after another, so as to keep the bees constantly at work—yes, even through poor seasons. The honey-farm project seemed for quite a time to be a failure; and at the present time it seems pretty certain that we can not afford to raise plants for honey alone. The trouble is, it needs hundreds of acres to make bee-keeping a real paying business. Our good friend Prof. Cook has tried raising Rocky Mountain bee-plant, and the Chapman honey-plant, expressly for bees. The State of Michigan has been kind enough to furnish money for the experiment: but it did not pay. Our fond hopes in that direction have been, in one sense, dashed to the ground. In my trip to California I had this in mind; but I passed over all those thousands of miles, and did not notice or hear of any thing particularly encouraging. The white sage does not yield honey every year, and our California friends have, like us, had poor honey yields for so many years that many of them are disgusted, and are about to give up. Meanwhile, however, we were moving along, even though many of us—perhaps most of us—did not know it. The silly falsehoods about honey, both comb and extracted, being adulterated had to be fought down; and we found that lies, like every thing else that belongs to the evil one, die hard. Some of us became almost discouraged when even the religious papers seemed very loth to let go or retract these harmful mistakes they have promulgated. We kept fighting, however; and as we were a *hundred thousand strong* (may be my figures may not be exactly correct, but we are pretty nearly that) our blows began to tell. Honey was slowly making its way into the *homes* of our land, but we did not seem to know it. The grocers were waking up too; and it only needed the seasons of scarcity we have passed through to set the people clamoring for honey, and even offering prices we had no expectation of realizing again. Then some of our California friends who had let their bee-ranches grow up to weeds began to say, "Look here, friends, if you will guarantee us 7 cts. for nice honey, extracted, I will fix up my ranch and start bee-keeping again." The advance in price gave them faith. Let me tell you of a little incident that shows how dull some of us are: I think it was nearly ten years ago that I was traveling in a sleeping-car. My neighbor was evidently a farmer, and he, like myself, had decided to pay two dollars for a good night's rest. I noticed by the looks of his hands that he was a son of toil. Finally he explained that he went west a few years before. He bought some desert land, and got into a scheme to irrigate it. Then he commenced raising alfalfa. His crop had brought him so much money that he had just been to see the old folks, and to tell the neighbors of his good luck. He offered me alfalfa seed at an insignificant price, but we were not then prepared to handle it. I asked him about bees. He said he did not know any thing about them; but he said that, by their management with irrigation, alfalfa is in bloom almost continually, and that the blossoms smelled like clover-blossoms. He told me how many acres there were in his vicinity, but I thought little of it. It is now not quite a year since friend Ball came

to see us, wanting to sell us a carload of alfalfa honey. Dr. Miller, about a year before, found some near Denver, Colorado, and sent me a sample to show what it was like. This was perhaps two years ago. Alfalfa honey is now scattered all over the land. In passing through the desert wastes of Arizona I noticed thousands upon thousands of acres of a shrub or tree that looked a little like a peach-tree, or perhaps a little more like wild cherry. I wondered whether it bore honey, but nobody could tell me any thing about it. A few months ago we were offered a carload of mesquite honey. We had heard something in regard to it, but we had no hope that it would be equal to alfalfa. We ordered some; and after the honey came we were astonished to find it so fine; and I thought Mr. Calvert was exaggerating when he said he believed a good many people would like mesquite as well as the alfalfa. Well, at present I am quite certain that mesquite honey is destined to bring a *higher* price than the alfalfa. More mesquite honey is still offered by the carload, and it will soon be scattered into the country towns of the United States. Possibly it will go across the ocean and into Canada. It surely will if those who put it up do their work honestly and well. The great public is beginning to recover from its disgust, created largely by poor bee-keepers—bee-keepers who were slipshod in their methods of work, and slipshod in their conscience. Are there any such here today? The latter kind of slipshodness is more to be feared than the former. If your faith is waning, believe me, dear brethren, when I tell you that the saddest kind of infidelity in the world is the kind that says that honesty is *not* the best policy. When your stock of faith gets so low and uncharitable as that, you are in a bad predicament. You are pretty nearly as bad off as were Christian and Hopeful, when imprisoned in Doubting Castle, and pounded and bruised every day by giant Despair. Now, let us put up our honey and send it off, with a bright and living faith in the saying that "honesty is the best policy."

Perhaps some of you say right here, "Why, Bro. Root, this is a big thing for the Arizona chaps, but how does it benefit us to see honey coming in by the carload from Arizona, to compete with our product?" Do not be troubled. Let us rejoice at their good fortune, and eventually God will, in his infinite love and wisdom, show us that he has not forgotten his children away out here. I do not know just how it is coming, nor when; but I heartily agree with the psalmist when he says, "I have been young, and now am old; yet have I not seen the righteous forsaken, nor his seed begging bread." When I was in California I heard about their failures and low prices, and I really felt sorry for a good many of the hard-working friends, especially for some who were a good deal in debt. After friend Mercer had taken so much pains to take me around over the country, and would not let me pay for the livery that was hired specially for my accommodation, my conscience troubled me; and when the season after passed, with a still poorer crop than he had ever had before, I felt greatly troubled for fear that these good friends would have hard work to pay their debts and keep above water; but during the past season friend Mercer has had a great outpouring. It seemed almost as if the windows of heaven which we have read about were opened, and honey came down by the carload; and, oh, such beautiful honey! You would think a glass jar full was almost empty unless you lifted it to see; and then the air-bubble moves so slowly when you tip it over that this beautiful clear honey looked like white transparent wax. When you put a

spoonful in your mouth, you say, "Oh, my! isn't that beautiful?" When we sent it out to customers it was wonderful to see the letters of surprise and astonishment. Well, California, Arizona, Colorado, Idaho, and lots of other places that I don't know much about, are getting full of enthusiasm—especially those districts where irrigation is practiced; for there they have sunshine every day in the year. By the way, my wife has suggested once or twice that sunshine every day in the year, for a little while, would be a grand thing here in Medina, then when we want more wet we can irrigate as our friends do. God's part would be the sunshine; our part would be the windmills and the big rivers turned from their courses. But, hold on, friends. We are not ready to sell out and move on to the desert. We may rejoice that the prophecy is coming to pass, that the desert shall be made to blossom as the rose. But our duty—for, at least, the greater part of us—is to have faith enough to stay where we are, and to remember the blessings we enjoy. We also want to keep in mind that plenty of rain is a very great blessing indeed. These great crops of honey from the desert wastes of the West are going to open up business in many ways. Several carloads of supplies are ordered already, and it is going to keep us pretty busy to get them off by the time promised—Dec. 1. Perhaps you say again, "All the above is very well for the big bee-keepers and for the supply-dealers; but how about the smaller ones who have worked hard, and yet are not any better off?" My friends, we must still hold to the text—have faith in God; and if bee-keeping does not seem to give us a living in our present location, we should work at something else meanwhile. He that is faithful in few things shall surely be made ruler over many things. There is plenty to do, with *good pay*, so far as my experience goes, in *every* locality. But we must be bright and wide awake and on the alert. The trouble is, we let opportunities slip. We are dull and stupid. Just one illustration comes to my mind. Some of our men were unloading tile a few days ago. The locomotive, in moving some other cars in the vicinity, bumped their car over to one side so they were working at a great disadvantage. I told them to drop the tile for the present, and throw off coal from a car that stood close by, until the railroad men were instructed to push the car back to its former position. An hour afterward I found the car of tile pushed as much too far to the north as it had been before too far to the south. I asked one of the boys why he did not keep watch and tell the railway hands just how they wanted the car of tile placed. He looked around in a stupid sort of way, and replied that he did not know that they had moved the car at all. He did not even know that the locomotive had been bumping right behind his back, moving cars here and there—didn't know any locomotive had been round *at all*. The railroad men were told to move the car, but they did not exactly know which pile to place it by, and the boy who was shoveling coal did not have his wits about him enough to instruct them. Now, I am sure this little incident is a fair illustration of why people are out of work. They can not work profitably unless somebody is near by to boss things and to look after them, and to *take care* of them. The great world soon decides that it will be cheaper to put a *live, wide-awake* man in their places; and, my friends, there is nothing else in this wide universe that will do so much to make a man live and wide awake as to have faith in God according to our text. Why, the very thought of it fills me with animation and life. If I were not afraid that I might hurt somebody's feelings,

I do not know but I could swing my hat, and give three cheers, even when I get up in the morning and find that it is raining still. The rain makes trouble, it is true; but my faith in God tells me that *all things shall work together for good to those that love him*.

Some of you may remember what I found in the vicinity of Salt Lake City, Utah—beautiful white honey, equal to any in the world, from sweet clover. The sweet clover grows all over the mountains and plains; in fact, it grows on the saleratus land around Salt Lake, where nothing else will grow. In many localities near Ogden and Salt Lake City, they told me that sweet clover was the only source they had for honey; and this year we have reports of apiaries of some size that have given 200 lbs. per colony. The sweet clover also pays in other ways besides the honey it yields. It furnishes valuable forage in that locality, and when turned under it makes the ground fertile for other crops that would not produce any thing before, on account of the alkali, or "saleratus," as they call it. Probably hundreds of colonies of bees would do well in this region, where only one colony is kept now. So here is another of God's gifts, as yet almost undeveloped and unknown. Sweet clover is there spreading spontaneously in all directions.

Past experience seems to have taught us that not only is it true that no plant bears honey invariably, but it is also true that a great many plants may now and then give quite a yield of honey. Doolittle got quite a crop of very nice honey several seasons from teasel. Dr. Miller had quite a little honey-yield from cucumbers, where they were raised for pickle-factories. Spanish needle from the swamps sometimes gives large quantities of very rich amber honey. Last season Dr. Miller had a yield of very nice honey right along for months; and, if I am correct, he does not know where it came from. When I visited him he asked me if I could see enough white clover, or clover of any kind, to account for the amount of honey that was then coming in. I could not. And yet there was nothing else visible to us, in our miles of travel, that should furnish it. Rape sometimes gives quite a flow of beautiful honey in localities where the plant is raised largely for seed. Mustard-fields also furnish more or less; and we bee-keepers should look out for the localities where mustard raising is a business. The question is sometimes asked, "Shall we give up our location, and move to a better one?" Sometimes it may pay us to do so, if we have decided that honey-raising is to be our business for life. But after we make the move, we may discover that the honey has ceased in the new location; and at the same time we may find, too, that the old locality has been blessed with a bountiful flow. Instead of moving I would locate a few colonies say five or six miles away, in different directions. Many of our bee-keepers who have out-apiaries have in this way found points where the honey-yield is much better year after year than in the home apiary. It is a fact, that no two points seem to average alike. Some honey is to be found almost everywhere, and occasionally there come a *few days* of bountiful yields almost everywhere. Let us have faith—faith in the honey-bees; faith in our fellow-man; faith in hard, earnest work, with both brain and muscle. And finally, dear brethren, let us, in the language of the text at the head of our talk to-day, "have—faith—in—God."

Despond then no longer—the Lord will provide;
And this be the token—
No word he hath spoken
Was ever yet broken:
The Lord will provide.

BONESET.

IS IT POISONOUS TO COWS?

Prof. Cook:—I mail you with this letter a weed for name and classification. I have never seen the weed growing, except in the Wabash Valley; and wherever it grows plentifully, cattle have the milk-sickness when running at large. When land is cultivated it ceases to grow. I have lived in the vicinity of the milk-sickness for 37 years, and noted many localities where the disease was common, and I always found the weed in abundance. Where it was not to be found, no milk-sickness was known. It grows rather late in the season, and is nice, green, and tender until frost kills it.

Ingraham, Ill., Sept. 23.

H. HASTINGS.

Prof. Cook replies as follows:

The plant which Mr. Hastings is anxious about is a very common boneset, or thoroughwort — *Eupatorium ageratioides* — sometimes called white snakeroot. It is common here and in many parts of the country, and has no bad reputation. Indeed, none of the *compositæ* have been supposed to possess any poisonous qualities. I think Mr. Hastings must be mistaken. I do not think cows have received any harm from this plant. Yet it behooves us all to be very modest in expressing our opinions. Nature is wonderful, and her ways often past finding out.

TUMORS.

Mr. Mont. Wyrick, Cascade, Iowa, sends me a common sparrow which has a large horny growth on its foot, and another just at the base of its bill. He suggests that these caused the death of the bird. "I should be pleased," says he, "if you would give explanation through GLEANINGS." These are tumors, or abnormal growths from the tissues. They are to the animal what a gall is to the vegetable. They are of two kinds—malignant and benign. The former are dangerous, often fatal; but the latter is not usually very serious. If internal, they are more to be dreaded than when external, though in all cases their removal is to be urged when it can be done safely. I question whether the tumors, in this case, killed the bird. The diseased condition which is evinced in the tumors, more likely was the cause of death. Not long ago I received a tumor, taken from the leg of a chicken. This tumor was as large as a goose egg. It only remains to be said that surgery is now so advanced that large tumors are removed from the internal cavities very frequently, and usually, or at least often, with entire safety. While I have little respect for medicine as generally used, I have the most profound respect for the surgeon's art, and the skill and perfection which is daily shown in its practice.

A. J. Cook.

Agricultural College, Mich., Oct. 10.

Friend C., there is a large tract of woodland near us, full of white snakeroot, and cows have been kept out of this piece of woods for years, because of an impression that this plant produces milk-sickness. Whether it be true or not, keeping the cows out has given a great growth of young basswoods; and the opinion prevails quite largely, that white snakeroot is bad for cows.—I entirely agree with you in regard to what you say about the surgeon's art; and I wish to mention one little point right here, showing how often kind friends blunder in giving medicine. A relative has just died. She was kept for long weeks—yes, months—under

the influence of morphine, to keep her from suffering, as the friends supposed. Finally her son-in-law, who is mostly away from home, decided that there was no sense or need of dosing the poor woman with such a quantity of opiates. He told me they were giving her enough to kill a stout man, every day. The opiates were all cut off *at once*. He did this because he had noticed that she was more restless and uneasy after having her powders. She became at once peaceful and easy, and lived for more than a week, almost free from pain, and in her right mind till nearly the last. For many years it has seemed a sad thing to me that our friends must take their departure from this world, with their senses so deadened, and their system so drugged with opiates, that, during their last hours, they do not know their best friends. And I rejoice at the result of this experiment. The opiate was not only of no use whatever, but she was easier and better without it. After she became so low that she was unable to speak, she could indicate to her friends by her bright, peaceful smile that she was at peace with God and at peace with all humanity.

EDITORIAL.

Thou crownest the year with thy goodness, and thy paths drop fatness.—PSALM 65:11.

As this number of GLEANINGS goes to press, the senior and junior editors are enjoying the fellowship of brother bee-keepers and kindred spirits at Keokuk, and making new friends in the Mississippi Valley.

RENDERING WAX—IS THE REFUSE VALUABLE?

RAMBLER's remarks in this issue seem to indicate that, even where a wax-press is used, considerable wax remains in the pumice. What else should keep it burning for two or three days? If it is not wax, what else is it that keeps up the fire?

THIRTY YEARS AMONG THE BEES.

THIS is the title of a new book, written by Heney Alley, of Wenham, Mass. It contains 80 large pages, and is full of good things. In fact, we are ashamed to say that we did not even know that friend Alley had got his queen-rearing down to such perfection, for this is what the new book deals with principally. He speaks very pleasantly of Mr. Doolittle's work on the same subject, and advises any one intending to rear queens to get a copy of that work. He thinks Mr. D.'s artificial cells are too fussy, and that inducing the bees to build cells by his plan of destroying alternate eggs, would be better. Toward the latter end of the book there are a great many good things; for instance, how to find a fertile queen; how to warm a small bee-room economically; best fuel for

smokers, and several other items that smack pretty strongly of long experience. The price of the book is 50 cts. The same can be had of us or of Mr. Alley, as above.

A VISIT FROM A CALIFORNIAN.

LAST week one of our old customers, Mr. Henry Trickey, of Bishop Creek, Cal. (*Trickey* only in name), gave us a pleasant call. He lives right in the alfalfa fields, and says the resources of that plant seem to be boundless. He generally averages a good crop of honey, and that of the finest quality. He was on his way east, where he had consigned a carload of his honey, and proposed to give it his personal attention on arrival at destination. He is one of the very few bee-keepers who do not want any bee-space between the brood-nest and supers. We tried to argue him out of it; but he declared that, when there is a space over or under the sections, the bees will shortly soil and spoil them with propolis. A T super would not do with him at all, because, in a few days' time, they would daub the sections pretty badly. He wanted some surplus arrangement whereby sections could be completely covered. We recommended the single-tier wide frame with separators. He regarded these as too fussy, and finally he left without having decided what he did want. We were considerably allured by the tale of the immense crops of honey which he and his neighbors were getting. But over against this, as a sample of the price of things, he told us that coal oil costs 50 cts. a gallon; poor firewood, \$8.00 a cord; fair pine lumber, \$80.00 per 1000 feet; labor, from \$3.00 to \$5.00 a day, besides board.

When our friends contemplate moving to these alfalfa fields, or to any other alluring section toward the land of gold, let them first inquire the cost of supplies, for people must live.

We thought it seemed as if he ought to be able to get oil for less than 50 cts. per gallon. "Why don't you import it yourself?" we asked. "It costs about 45 cts. a gallon to get it laid down," said he, and he did not care to work on a margin of 5 cts. It seems that the Californians have their coal oil shipped in 60-lb. square cans, and then the bee-keepers there buy these same cans, and, after cleansing them, fill them with honey, and re-ship back to the Eastern markets.

A BOOK ON TURKEY-RAISING.

I ALWAYS did enjoy industrial books. Ever since I became enthusiastic over friend Gregory's book on squashes I have always welcomed any book on rural industries. Now, when I tell you that the turkey-book was written by Fannie Field, that is all the recommendation I need to give it. The only objection I have to make is, that there is not enough of it—at least, there is not enough for 25 cts., the price the publisher put on it, according to my idea of fitness; and

the publisher also says that nobody shall sell it for less than 25 cts. He says, however, that we may club it with journals as cheap as we please. So, here goes: When you are remitting your subscription for next year, put in 10 cts. extra, and we will mail you the turkey-book. If you have already remitted, send 10 cts. only. I do not think the publisher will grumble if we do it this way. If he does, we will pay him damages. Anybody who sends two subscriptions, or \$2.00 for GLEANINGS two years, can have two of the books.

A HEN STORY.

THREE Light Brahma hens have their home near our factory. They go around the depot, and around in front of the store; and, in short, they work for nothing and board themselves. They have not been fed a scrap of any thing for months, and yet these three hens average two eggs a day right straight along. Now, mind you, I do not say that each hen lays two eggs a day—I only said that the three hens *collectively* furnish two eggs, on an average. Their keeping does not cost any thing; and now that eggs are worth 2 cts. apiece we have a steady "income" of 4 cts. a day. The amount is not large, it is true; but it is a regular income, without any outgoes at all; and that is the reason why I enjoy that kind of poultry-keeping. It is always fun for me to have a machine or animal that brings in the revenue, without having the expenses eat up the income. Perhaps you think there is not any particular point about my hen story, after all. But there is a point, and a big one, and it is, briefly, this. Wherever there is a locality where a few fowls can pick up a living, this locality should be utilized. As we say in bee-keeping, have your field fully stocked, but do not "overstock" it. Another thing, hens will lay more eggs, when they take care of themselves, than they will where they are fed daily, unless you so manage the feeding that it costs a good deal of time and money. You will notice that I have made no notice of male fowls. Well, where you are working for eggs only, I am firmly convinced that none are needed. One of the objections to keeping a few biddies is, that their surroundings are unsightly unless they are constantly cared for. I am just now planning some sort of roosting-place that will not look untidy, even in damp weather. If it is to accommodate only a few, it can be very brief and simple, especially if they are Brahmas; and the readiest way of keeping their dooryard neat and clean would be, I think, to move the house about quite often, the way we do our "perambulating pigpen" (made of strips of wood and poultry-netting). Now, my friend, if you have never enjoyed the fun of keeping poultry, suppose you get just three Brahma hens. Don't get any more, for you may find them a nuisance—that is, do not have more than three to start with.

DISCOUNTS FOR EARLY ORDERS.

As is our usual custom, we are allowing a liberal discount on orders sent in now for goods to be used next season. After the vexatious delays last spring, it is needless to explain the many advantages secured by those who order early. Not only do you gain by having your goods to put together and get ready for use during leisure time in the winter months all ready for business in the spring, but you secure a sufficient discount to make the investment a profitable one. You also run the chance of getting better goods, made when we are not so rushed, than some we were obliged to send out last spring, made by unskilled workmen on the night force during the "great rush" for supplies. With the increased capacity that our new two-story brick building, 37 x 100 feet, gives us we hope to be better prepared than ever for such an unusual increase of business as we have had the past season. Still, the experience of the past two years has taught that it is not safe to rest with too much confidence on this reasonably good prospect. It is much safer for you to ORDER EARLY. We have secured from Michigan over 100,000 feet of basswood, out of which we are making the whitest and nicest sections we ever turned out. To verify our word, send 5 cents to pay postage on a sample. With a demand equal to last year, the sections made from this lot will be gone by April 1. We may get more equally good, but the chances are in favor of those who order early. Our new revised catalogue will be ready to mail in two or three weeks.

DISCOUNTS.

The discounts will apply to every thing in our catalogue ordered for next season's use. They can not, of course, apply to large orders for counter goods or honey-packages; but if only a few of them are included with an order for hives, etc., then the discount may be taken from the whole bill.

Up to Nov. 1st, discount will be 5 per cent. After that date, one per cent a month for each month before March; i. e., 4 per cent in November, 3 per cent in December, 2 per cent in January, and 1 per cent in February.

A. I. ROOT, Medina, O.

Wire Cloth.

For door and window screens, tacking over hives and nuclei for shipping, making bee and queen cages, and a variety of purposes. We have the following list of green and black wire cloth which is not exactly first class, but is practically as good for the purposes mentioned, and at prices MUCH BELOW the ordinary price. You can no doubt select from this list a piece to suit your needs. Price in full pieces, 1½ cts. per square foot. When we have to cut it, 2 cts. In case the piece you order may have been taken by some one else before your order comes, please say whether we shall send the nearest in size, or cut one the size ordered at 2 cts. per ft., or size a second or third choice.

No. of Rolls, and Color.	Width, In's.	Length, Ft.	Sq. Feet.	Price of a Full Roll.	Pieces less than 100 ft. long. These figures are the number of square feet in each piece. Multiply by 1½ cents for the price of piece.
10 green	8	100	67	\$1.17	65, 65, 64, 63, 63, 62, 54, 40, 33
25 green	12	100	100	1.75	44, green; price 77 cts.
2 green	16	100	133	2.33	
1 black	22	71	158	2.24	110 sq. ft., black; price \$1.92
5 green	24	100	200	3.50	140, 40, 30, 8, green; 200 black.
54 green	26	100	217	3.50	This is below reg. pr. of 1½ c.
14 green	28	100	233	4.08	224, 224, green.
7 green	32	100	267	4.67	133, green; price \$2.33.
10 green	34	100	300	5.25	300, black; price \$5.25
6 black	38	100	317	5.54	269, black; price \$4.70
5 green	38	100	317	5.54	258, black; price \$4.50
3 black	40	100	333	5.83	317, black; price \$5.54
8 black	42	100	350	6.12	350, green; price \$6.12
1 green	44	100	367	6.42	

A. I. ROOT, Medina, Ohio.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, Ohio.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

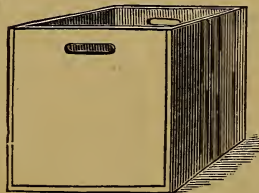
JNO. VANDERVORT Laceyville, Pa.

BARRED PLYMOUTH ROCK COCKERELS, \$1.00; hens, 75c. Also Quinby hive corner clasps for sale. 20tfdb L. C. AXTELL, Roseville, Ill.

POTATO-BOXES

GALVANIZED BOUND.

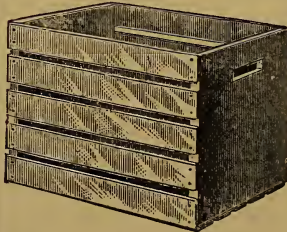
(TERRY'S).



These are made of basswood, bound with galvanized iron. The galvanized iron gives strength, and the basswood strength and lightness. These hold exactly a bushel when level full, and may be piled one on top of another. Although they are made especially for potatoes, they can be used for fruit, vegetables, picking up stones on the farm, and a thousand other purposes. When piled one above the other, they protect the contents from the sun and rain; and from their shape a great many more bushels can be set into a wagon than where baskets are used. They are also much more substantial than baskets.

Price, nailed up, 25 c each; 10, \$2.25; 100, \$20.00. In the flat, including nails and galvanized iron, Per pkg. of 1 doz., 2 nailed and 10 packed inside, \$2.10; 10 pkgs., 5 per cent off.

SLATTED POTATO-BOX



As the pieces of which the above are made are mostly from remnants of basswood used in making sections, we can furnish them nailed up for 20 cents each; 10 for \$1.85; 100, \$16.00. Material in the flat, including nails, in packages of 12 boxes each, at

\$1.50 per package, and each package includes two of the 12 boxes nailed up, complete. Ten pkgs., 5% off. Please be careful in ordering to say whether you want the galvanized bound or the slatted boxes.

A. I. ROOT, Medina, Ohio.

Our Motto: BEST GOODS at LOWEST PRICES.

The Immense Demand for our Hives, Sections, Comb Foundation, and other Bee-Keepers' Supplies, during last season, was more than we were prepared to take care of, and in consequence, like many of our competitors, we were at times very much behind our orders, causing much dissatisfaction to our customers. However, we tried to do justice to all.

We take pleasure in announcing to our friends, that we have more than doubled our capacity by large additions to our factory and machinery, and we will hereafter be able to supply all your needs promptly, with goods of which the material and workmanship can not be excelled.

LARGE ILLUSTRATED CATALOGUE FREE.

Address **The W. T. FALCONER MFG. CO.,**
Jamestown, N. Y.

USUAL WINTER DISCOUNTS ARE NOW GIVEN.

In responding to this advertisement mention GLEANINGS.

ESTABLISHED IN 1864.

BEE SUPPLIES.

Wholesale and Retail.
40-page Illustrated catalogue FREE to all.

We have the largest steam-power shops in the West, exclusively used to make EVERYTHING needed in the Apiary, of practical construction and at the LOWEST PRICES. Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee-Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand.

In responding to this advertisement mention GLEANINGS.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.
6tfdb

NOVELTY CO.,
Rock Falls, Illinois.

Please mention this paper.

EUREKA FRAME MACHINE.

Something every bee-keeper should have.
For price and particulars address

24-23db **F. W. LAMM,**
Box 106, Somerville, Butler Co., O.
Please mention this paper. 24-23db

"HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation, etc., free.
5tfdb

CHAS. DADANT & SON,
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

Bee-Keepers' Supplies.

WHY SEND LONG DISTANCES?

SEND NAME ON POSTAL CARD FOR MY
NEW PRICE LIST TO

C. P. BISH, Grove City, Mercer Co., Pennsylv'a.

Formerly of St. Joe Sta., Butler Co., Pa.
ESTABLISHED IN 1884. 7tfdb

Please mention this paper.

PATENT WIRED COMB FOUNDATION HAS NO SAG IN BROOD-FRAMES.

THIN FLAT - BOTTOM FOUNDATION

Has No Fish-bone in Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.



J. VAN DEUSEN & SONS,
Sole Manufacturers, 5tfdb
Sprout Brook, Montgomery Co., N. Y.

In responding to this advertisement mention GLEANINGS.

PASTEBOARD BOXES,

Or Cartons, for One-Pound Sections.



Bee-keepers are realizing more and more the value of these cartons for putting their comb honey in marketable shape. Other articles of home consumption are put up in a neat attractive way, and in shape to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

TABLE OF PRICES OF 1-LB. SECTION CARTONS.

Name or designation.	Price of 1	25	100	500	1000
1-lb. carton, plain.....	2	.20	.60	2.75	5.00
1-lb. carton, printed one side, name and address.....			.90	3.50	6.00
1-lb. carton, printed on both sides, name and address.....			1.00	3.75	6.50
1-lb. carton, with lithograph label, one side.....	3	.30	1.00	4.50	8.50
1-lb. carton, with lithograph label on both sides.....	3	.40	1.30	6.25	12.00
1-lb. carton, with lithograph label one side, name printed.....			1.30	5.25	9.50
1-lb. carton, with lithograph label, printed with name on both sides,			1.70	7.25	13.50
Lithograph labels, 2 designs, for 1-lb. cartons.....		.35	1.60	3.00	

If sent by mail, postage will be 2 cts. each; or in lots of 25 or more, 1 cent each. All the above have tape handles. Price, without tape handles, 5c per 100, or 75c per 1000 less. The quality of the boxes is fair, being made of strawboard, plated outside. If more than 1000 are wanted, write for prices.

A. I. ROOT, MEDINA, O.

FOR LIGHT AND DARK FERRETS,

and pure Poland-China Swine, address

N. A. KNAPP,
Rochester, Lorain Co., O.

In responding to this advertisement mention GLEANINGS.

BEES

SEND for a free sample copy of the BEE JOURNAL - 16-page Weekly at \$1 a year - the oldest, largest, and cheapest Weekly bee-paper. Address **BEE JOURNAL, Chicago, Ill.**

16tfdb